ABSTRACTS

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Adcock, Taylor

Effects of GLP-1 Receptor Agonists on Weight in the Veteran Population: A Retrospective Cohort

Adcock, Taylor - Author[1]; Pitcock, Margaret - Co-Author[1]
[1]G.V. (Sonny) Montgomery VA Medical Center

Background/Purpose

Type 2 diabetes affects greater than 34 million people in the United States. This correlates to about 12.4% of Mississippi's population and 20.5% of the Veteran population. A prominent risk factor in the general population is obesity, which has a prevalence of 40.8% in Mississippi. In addition to obesity, the Veteran population has additional risk factors of >65 years old, male, and lower socioeconomic and education status that put them at even higher risk. Of the new therapies for diabetes, GLP-1 receptor agonists have shown improvement in weight loss. GLP-1 trials have shown an average weight loss of 1.5kg – 4.0kg. However, the average age in these trials was mid-50s, which does not necessarily fit the Veteran population. In fact, few studies have looked at real-practice therapy regarding weight loss from this class in the elderly population. The purpose of this study is to evaluate the effects of GLP-1 receptor agonists on weight in the Veteran population.

Methods

This retrospective cohort evaluated the effects of GLP-1 receptor agonists on weight within the G.V. (Sonny) Montgomery VA Medical Center Veteran population. Veterans were included that had been started on a GLP-1 receptor agonist between January 2016 and January 2020. The primary endpoint was assessing clinically significant weight loss of at least 3kg within 1 year of treatment. Secondary endpoints included mean change of BMI, mean change of A1C, and alterations of diabetic medication regimens.

Results

The primary endpoint showed an average weight loss of 2.8kg at 6 months (p-value <0.0001) and an average weight loss of 4.0kg at 12 months (p-value <0.0001). Both of these were statistically significant. Further analysis is ongoing.

Conclusions

There was a clinically significant weight loss seen at 6 and 12 months after initiation of GLP-1 therapy. This weight loss was similar to that seen in previous clinical landmark trials that had a younger patient population.

Agee, Jazmin

Evaluation of the Timely Administration of Secondary Vasopressin (AVP) for the Treatment of Septic Shock in the Emergency Department

Agee, Jazmin - Author[1]
[1]Methodist University Hospital

Background/Purpose

The Surviving Sepsis Campaign endorses norepinephrine (NE) as the first-line vasoactive agent despite moderate quality evidence. NE is used to maintain mean arterial pressure (MAP) goals, with secondary vasopressors used to reach the MAP target or to decrease NE requirements. Studies have shown promise in early addition of AVP to NE, but the amount of robust data is lacking.
Standard Methodist Hospital practice for secondary AVP initiation isn't clearly defined and is provider specific, which can lead to differences in thresholds for secondary AVP initiation. It is difficult to determine if variable thresholds for ordering or delays in administration time are preventing secondary vasopressor initiation. The purpose of this retrospective study is to determine how secondary AVP is being used at a multi-hospital system for the treatment of septic shock and to identify causes of delay.

Methods

A retrospective analysis was conducted of adult patients presenting to a Methodist Healthcare system emergency department from May 1st, 2019 to May 1st, 2021, who were diagnosed with severe sepsis with or without septic shock and initiated on norepinephrine and vasopressin within 24 hours. Patients were excluded if they were less than 18 years old, pregnant, or if they presented with a neurological injury/trauma. The analysis was descriptive statistics.

Results

Of the 200 patient screened, 100 were included. Median patient age was 63 years, with the majority being African American (76%) males (59%). The primary admission diagnosis was severe sepsis with septic shock (67%). For the primary outcome, 73.5% had a delay in AVP initiation. This composite percentage is derived from 67% of patients having AVP ordered after NE rate was at 30 mcg/min, and 82% having an order to administration time > 30 minutes. The median vasopressin order to administration time was 60 [IQR 68.50] minutes.

Conclusions

At a multi-hospital system level, there is a noteworthy delay in vasopressin initiation for patients being treated for severe sepsis. Based on this analysis the delay stems from a prolonged order to administration time, as well as a deferral in the timely ordering of vasopressin.

Allen, Zach

Evaluation of Sugammadex versus Neostigmine in Neuromuscular Blocker Reversal in COVID+ Patients

Allen, Zach - Author[1]; Dixon, Tripp - Co-Author[1]
[1]Mississippi Baptist Medical Center

Background/Purpose

Post-operative pulmonary complications are common in approximately five percent of patients. The STRONGER trial assessed the incidence of post-operative pulmonary complications between neuromuscular blockade reversal agents sugammadex and neostigmine. Data to support the use of either is lacking in patients diagnosed with coronavirus (COVID-19). This review assessed if patients diagnosed with COVID-19 experienced post-operative pulmonary complications when reversing neuromuscular blockade with sugammadex or neostigmine.

Methods

This study is a single center, retrospective chart review of patients who underwent general anesthesia utilizing neuromuscular blockade after being diagnosed with COVID-19. Patients included in the study had a positive COVID test within 18 days of surgery. The primary endpoint is pulmonary complications, which is defined as pneumonia, respiratory failure, and other pulmonary complications (pneumothorax, pulmonary congestion, pneumonitis, pulmonary embolism or infarction) post-administration of sugammadex or neostigmine. Secondary endpoints include individual components of pulmonary complications and re-intubation post-administration of sugammadex or neostigmine.

Results

Data was collected from December 2019 through December 2021. A total of 31 procedures met inclusion criteria for the study – 24 procedures utilized sugammadex, six used neostigmine, one used both sugammadex and neostigmine. Out of 24 patients in the sugammadex group, four (16.6%) patients developed a post-operative pulmonary complication. No patients in the neostigmine or combination group developed post-operative pulmonary complications. Secondary endpoint data includes one patient (4.2%) that developed a post-operative pneumothorax and three patients (12.5%) that developed pneumonia post-operatively.

Conclusions

Among patients evaluated, sugammadex shows an increased risk of pulmonary complications as compared to neostigmine in patients infected with COVID-19. While the neostigmine population was much smaller than sugammadex, it lacked any post-operative pulmonary complications. The data shown here may indicate that COVID-19 impacts pulmonary function when undergoing neuromuscular blockade reversal.

Anderson, Ashten

Liposomal Amphotericin B Hydration and Incidence of Nephrotoxicity

Anderson, Ashten - Author[1]; Lusardi, Katherine - Co-Author[1]
[1]UAMS Medical Center

Background/Purpose

The use of amphotericin B (AmB) continues to be complicated by adverse effects including infusion-related reactions and nephrotoxicity despite the development of newer formulations such as liposomal amphotericin B (L-AmB, Ambisome®). Previous studies have suggested sodium supplementation in the form of normal saline boluses may protect against AmB-induced nephrotoxicity. Many of these studies, however, evaluated this effect with conventional AmB deoxycholate prior to the approval of L-AmB, and newer studies that have included L-AmB have conflicting evidence on whether this treatment strategy results in a clinically significant decrease in the incidence of nephrotoxicity and acute kidney injury (AKI).

Methods

This study is a single-center, retrospective chart analysis of patients admitted and treated with liposomal amphotericin B (L-AmB) at the University of Arkansas for Medical Sciences (UAMS) hospital between May 1, 2014 to November 1, 2021. Hospital admissions in which patients received pre-and/or post-L-AmB infusion hydration with normal saline will be compared with admissions where pre-and/or post-infusion hydration with normal saline was not used. Patients are excluded if they received fewer than 2 doses of L-AmB, received prophylactic doses of L-AmB (<3 mg/kg/day), or if they received dialysis at baseline. The primary outcome is the incidence of AKI at days 3, 5, and 7 of L-AmB therapy.

Results

Results will be described as they are gathered and assessed.

Conclusions

Conclusion is pending.

Anderson, Garraway

Implementation and evaluation of a pharmacy resident-managed transition of care service for high-risk patients with diabetes or heart failure

Anderson, Garraway - Author[1]; Campbell, Jennifer - Co-Author[1]; Armstrong, Drew - Co-Author[1]
[1]Regional One Health

Background/Purpose

There is a growing body of evidence demonstrating improved quality measures when clinical pharmacy transitions of care services include optimal patient use of pharmacy services, streamlined communication among clinicians, and enhanced patient engagement. Pharmacists do not currently have a consistent or defined role in transitions of care at our institution, with most discharge activities being coordinated by case managers and nurses. Therefore, development and implementation of a pharmacy resident-managed transitions of care service has the potential to improve patient outcomes and reduce hospital readmissions at our institution

Methods

This project is a prospective quality improvement initiative implemented at Regional One Health in Memphis, Tennessee. The post-graduate year 2 (PGY2) ambulatory care pharmacy resident conducted all operations of the transitions of care service. The service includes three points of patient contact: prior to hospital discharge, within 72 hours of discharge, and in the outpatient clinic through collaboration with the internal medicine physician. Hospitalized patients aged 18 years or older admitted to one of the internal medicine teams are included if the following criteria are met: patient will utilize the hospital outpatient pharmacy upon discharge and receive follow-up care by an onsite primary care provider; patient is either hospitalized for heart failure exacerbation or has a diagnosis of Type 1 or Type 2 diabetes mellitus with a hemoglobin A1C greater than or equal to 9% treated with insulin therapy, admitted for diabetic ketoacidosis, hyperosmolar hyperglycemic syndrome, or diabetic foot infection. Patients transferred to another hospital or discharged to a long-term care facility are excluded. The primary outcome is the rate of unplanned 30-day, all-cause hospital readmissions plus emergency department visits. Secondary outcomes include completion of post discharge telephone interview within 72 hours, completion of multidisciplinary post discharge ambulatory care visit, the reason for hospital readmission or emergency department visit, patient satisfaction, and the total number of medication discrepancies or pharmacist interventions identified at any point during transitions of care.

Results

Results/conclusion will be described.

Conclusions

Results/conclusion will be described.

Archibald, Timothy

Evaluating Physician Prescribing After Guideline Based Order Set Updates in the Treatment of Acute Exacerbations of Chronic Obstructive Pulmonary Disease

Archibald, Timothy - Author[1]; Schirmer, Lori - Co-Author[2]; Gilliland, Traci - Co-Author[3]
[1]Fort Sanders Regional Medical Center, [2]Cardinal Health, Knoxville, TN, [3]Fort Sanders Regional Medical Center, Knoxville, TN

Background/Purpose

A medication use evaluation (MUE) conducted in our 541-bed community hospital evaluated intravenous (IV) methylprednisolone utilization compared to Global Initiative for Chronic Obstructive Lung Disease (GOLD) guideline recommendations for treatment of acute exacerbations of chronic obstructive pulmonary disease (AECOPD). Based on MUE findings, policy changes were made to permit pharmacists to substitute prednisone if a methylprednisolone regimen was ordered for AECOPD. In addition, change to the institution's order set are planned to match the prednisone dose with the GOLD guideline. The study intends to analyze prescribing practices for AECOPD before and after the order sets are changed by the Information Technology (IT) department.

Methods

A retrospective chart review was conducted to identify patients who were admitted for AECOPD from October 2021 to November 2021 to establish a pre-determined population data size of n=60. After order set change implementation by the IT department, chart review will be repeated for a cohort of patients admitted for AECOPD. Inclusion criteria for data collected will include only AECOPD diagnoses upon admission. Exclusion criteria will aim to control for potential confounders such as COVID-19, asthma, pulmonary fibrosis and respiratory distress syndromes not related to AECOPD

Results

From October 25th, 2021, to November 30th, 2021, there were 182 patients analyzed to achieve the desired target population of n=60 for baseline analysis. These data yielded that 50% of the orders selected by the prescriber were from the institution's COPD power plan, which was comprised mostly of prednisone twice daily orders. The rest of the orders (50%) entered by prescribers were custom/one off orders and consisted mainly of prednisone 40 mg daily orders. Comparison data and analysis post order set change by IT is currently in progress and will be described.

Conclusions

Will be desribed

Armstrong, Arlesha

Influence of Pharmacist Driven Medication Reconciliations on 30-Day Readmission Rates

Armstrong, Arlesha - Author[1]; Mathis, Raymond - Co-Author[1]
[1]Magnolia Regional Health Center

Background/Purpose

Pharmacists are specifically trained to complete medication reconciliations and can be beneficial to the patient's care both on admission and at discharge. Completing medication reconciliations can not only improve patient outcomes, but also can potentially reduce medication errors, discrepancies, and adverse events. This research will provide more insight on the impact of pharmacist led medication reconciliations on the readmission rates of our patients.

Methods

A single-center, retrospective review was conducted for 30 patients over 6 months admitted from August 28, 2021 to February 28, 2022 at Magnolia Regional Health Center (MRHC). The impact of pharmacist driven medication reconciliations on readmission rates will be evaluated by identification of patients with medication reconciliations conducted by pharmacists and determining if any were readmitted within 30 days post discharge. Patients were selected at random on various days of the week. Patients suitable for inclusion were identified using the electronic medical record via Meditech. Patient demographics, admission date, medication history, and criteria for admission were also collected to be analyzed.
All results and information will be reported to maintain patient confidentiality.

Results

Preliminary - Of the 30 patients, 26.7% of patients were readmitted to Magnolia Regional Health Center after having a medication reconciliation completed by pharmacy. Results not complete.

Conclusions

Conclusion will be determined once data is available.

Baumann, Alysa J.

Residual Infusion Performance Evaluation (RIPE): A Single-Center Evaluation of Residual Volume Post-Intravenous Infusion of Eravacycline

Baumann, Alysa J. - Author[1]; Cleveland, Kerry O. - Co-Author[2]; Gelfand, Michael. S. - Co-Author[2]; Covington, Angela - Co-Author[1]; Perkins III, Nicholson B. - Co-Author[2]; Hobbs, Athena L.V. - Co-Author[1]
[1]Methodist University Hospital, [2]University of Tennessee Health Science Center

Background/Purpose

The total acceptable volume range for a 250mL normal saline bag is 265-285mL according to intravenous (IV) fluid manufacturers. Additionally, the reconstitution volume for each vial of eravacycline is 5mL. Despite these volume overages, the total admixture volume is 250mL. This study sought to quantify the residual medication volume in a completed IV eravacycline infusion and to evaluate strategies to ensure the entire dose is administered.

Methods

This single-center, retrospective, descriptive study evaluated residual volume after the completion of IV eravacycline in patients admitted during pre-intervention period of July 1-30, 2021 versus post-intervention period of November 1- 30, 2021. Study investigator used luer-lock syringes to manually measure residual volume of drug left in the bag and tubing for each collected dose. Investigator also documented administration time noting day (0700-1900) or evening (1900-0700) shifts. During the intervention period, the total infusion volume was updated to include the clinically significant diluent, and an administration label comment was added to “infuse at current rate until bag is empty.” Education was provided to nursing colleagues regarding these changes.

Results

The pre-intervention period consisted of 46 doses among 9 patients compared to 21 doses among 7 patients in the post-intervention period. Doses were equally split between day shift (n=33) and evening shift (n=34). The average residual volume for day shift was 44mL compared to 32.6mL for night shift (p=0.01) pre-intervention. Comparatively, average residual volume was 12mL for day shift and 12.5mL for night shift, post-intervention (p=0.91). The average residual volume after a 250mL infusion pre-intervention was 38.04mL $\pm$ 15.6mL (15% total bag volume) compared to 12.2mL $\pm$ 10.1mL (<5% total bag volume) post-intervention (p<0.0001). The greatest residual volume in the pre-intervention group was 85mL (34% of the dose) compared to 37ml (15% of the dose), post-intervention (p<0.0001).

Conclusions

After providing education, updating order comments, and including clinically significant diluent in the total volume, the average residual volume decreased from 15% to less than 5% of the total bag volume. Following the statistically significant results of this study, the interventions were expanded to include all admixed antimicrobials.

Bennett, Monica

Evaluating the impact of pharmacist-led discharge counseling on readmission rates in patients with heart failure in a rural community hospital

Bennett, Monica - Author[1]; Underwood, Elizabeth - Co-Author[2]; Turner, Mallory - Co-Author[3]; Smith, Forrest - Co-Author[3]; Griffin, Jennifer - Co-Author[3]
[1]Unity Health - White County Medical Center, [2]Unity Health-White County Medical Center, Searcy, AR, [3]Harding University College of Pharmacy, Searcy, AR

Background/Purpose

A pilot pharmacist-led transitions of care (TOC) service was implemented to provide discharge counseling to patients with a primary diagnosis of heart failure (HF). The purpose of this study is to evaluate the impact of this new service on unplanned readmissions within a rural community hospital.

Methods

This single-center retrospective chart review included HF patients aged ≥18 years, and excluded those <18 years old, pregnant, discharged to hospice care, or left against medical advice. The intervention arm consisted of patients who received the novel TOC service, and the control arm consisted of those who did not receive it within the same time period. The primary outcome was the rate of HF-related readmissions within 30 days of initial discharge date.

Results

56 total patients were included: 35 control patients and 21 intervention patients. Average age across groups was 70 ± 15 years. Intervention vs control group patients were more likely to be male (77.7% vs 40% respectively, p = 0.053) and Caucasian (90.5% vs 51.4%, p = 0.00281). The intervention group also had a significantly lower average ejection fraction (EF%) compared to the control arm (27.1% vs 40.8%, p = 0.0009); and greater proportion of HF with reduced EF% <40% (85.7% vs 20%, p<0.0001). No significant difference was found between intervention and control patients in 30-day HF readmission rates [3 (14.3%) vs 6 (17.1%), p=0.778]; with a respective average of 16.5 days and 18.5 days to readmission (p=0.7416).

Conclusions

An overall lower incidence rate of HF-related hospital readmissions was reported in the TOC patients compared to the standard of care, though this difference was not significant. However, the TOC patients did present with more advanced HF as indicated by significantly lower average EF% and greater numbers of EF% <40% compared to the control group. Further investigation is needed to explore the effect of this service in a larger sample size with more equivalent baseline demographics.

Black, Hannah

Implementation of Standardized Risk Assessment Tool to Improve VTE Prophylaxis in High-Risk Ambulatory Cancer Patients

Black, Hannah - Author[1]; Earl, Sally - Co-Author[2,3]; Montgomery, Natalie - Co-Author[4,3]; Jenkins, Anastasia - Co-Author[4,3]; Crumby, Trey - Co-Author[4]
[1]Baptist Memorial Hospital - North MS, [2]Baptist Cancer Center Oxford, [3]University of Mississippi School of Pharmacy, [4]Baptist Memorial Hospital - North Mississippi

Background/Purpose

Venous Thromboembolism (VTE) is a common condition in cancer patients, with recent studies reporting 12.6% of cancer patients will develop a VTE within 12 months of initiating chemotherapy. Primary prevention of VTE has proven to be successful in ambulatory patients receiving chemotherapy with an average reduction in VTE rates of approximately 50%. Despite this benefit, studies have shown only 5% of medical oncologists routinely prescribe VTE prophylaxis. The purpose of this study is to determine whether implementation of a structured risk assessment tool in the ambulatory setting improves prescribing behaviors of VTE prophylaxis therapy in high-risk cancer patients.

Methods

This is a prospective, interventional study. A retrospective review assessing current prescribing habits of the practice was conducted to determine baseline prescribing habits. A structured risk assessment tool based on the Khorana predictive model for chemotherapy related VTE was created and integrated within the HER for-medical oncologists to assess VTE risk in newly diagnosed cancer patients undergoing chemotherapy. A chart review will then be conducted to assess if the implementation of a risk assessment tool increases appropriate prescribing of VTE prophylaxis.

Results

Preliminary results are pending completion of data collection and will be described.

Conclusions

Preliminary conclusions are pending completion of data collection and will be described.

Bowker, Sam

A framework for maintaining smart pump interoperability upon transition to a new electronic health record vendor

Bowker, Sam - Author[1]; Hughes, Kristen - Co-Author[1]; Aguero, David - Co-Author[1]
[1]St. Jude Children's Research Hospital

Background/Purpose

For the last two decades, smart infusion pumps have heralded significant improvements to the safety of intravenous (IV) medication and fluid administration. However, great room for error still resides in the ability to circumvent the institution-customized drug libraries and dose error-reduction software (DERS) when the pump is not integrated with the electronic health record (EHR). This bi-directional integration of the pump with the health record, referred to as interoperability, continues to elude the majority of US hospitals due to the extensive resources and oversight required. Our institution has been interoperable with our current EHR vendor, Cerner, for over 3 years, but will be transitioning EHRs to Epic later this fall. While Epic has worked to facilitate smart pump interoperability at go-live for institutions previously without integration, they have yet to transition interoperability across vendors during an EHR implementation. This study looks to outline our implementation process, challenges that have arisen, and mitigation strategies that we have taken so that other institutions looking to pursue this endeavor may learn from our experiences.

Methods

This is a qualitative description of our institution’s transition of BD Alaris smart pump interoperability from Cerner to Epic as we implement Epic as the institution’s new EHR. A framework highlighting project planning, implementation challenges, and mitigating strategies will be described and illustrated.

Results

Results will be described.

Conclusions

Conclusions will be described.

Brown, Katelyn

Outcomes of Fluoroquinolones versus Third Generation Cephalosporins for Bacterial Prophylaxis in Malignant Hematology Patients

Brown, Katelyn - Author[1]; Evans, Amy - Author[2]; Mills, Elizabeth - Co-Author[1]; Krushinski, Kelsey - Co-Author[1]
[1]Baptist-Memphis, [2]Baptist-Mills

Background/Purpose

Febrile neutropenia (FN) is a life-threatening complication of chemotherapy in malignant hematology patients. One approach to reduce FN incidence is initiation of prophylactic anti-infectives. The NCCN recommends fluoroquinolone prophylaxis for high-risk neutropenic patients. Alternative agents are needed but not well established. Oral third generation cephalosporins may be an appropriate alternative. This study aims to establish non-inferiority of oral third generation cephalosporins to fluoroquinolones for FN antimicrobial prophylaxis.

Methods

This study is a single-center, retrospective chart review of malignant hematology patients (leukemia, myeloma, and bone marrow transplant) seen at Baptist-Memphis between July 1, 2016 – July 31, 2021. Patients were included if they received a fluoroquinolone or an oral third-generation cephalosporin for FN prophylaxis. Patient data was collected from the start of prophylaxis to either the next chemotherapy cycle, a change in antibiotic regimen, neutropenic recovery, or 30 days – whichever occurred first. The primary outcome is non-inferiority of oral third generation cephalosporins to fluoroquinolones for 30-day readmission due to FN. Secondary outcomes include *Clostridium difficile* infection, bacteremia, multi-drug resistant organisms, QTc-prolongation, and 30-day mortality. The primary and secondary outcomes were analyzed using descriptive statistics. This study was approved by the Baptist Institutional Review Board.

Results

Of 138 patients screened, 56 patients were included – 38 (67.9%) in the fluoroquinolone group and 18 (32.1%) in the cephalosporin group. The incidence of 30-day readmission was 38.9% in the cephalosporin group and 2.6% in the fluoroquinolone group (p=0.0003). There was no statistical difference between groups in terms of *Clostridium difficile* infection, bacteremia, multi-drug resistant organisms, QTc-prolongation, and 30-day mortality. There were more transplant and multiple myeloma patients in the fluoroquinolone group, 50.0% vs 22.2% (p=0.04) and 52.6% vs 5.6% (p=0.0007), respectively. Because transplant patients are often hospitalized for longer than 30 days and multiple myeloma patients experience a shorter neutropenic period, our primary endpoint may have favored fluoroquinolones.

Conclusions

In malignant hematology patients receiving FN prophylaxis, oral third generation cephalosporins were inferior to fluoroquinolones in terms of 30-day readmission for FN but were non-inferior in terms of adverse events. Because of limitations in the study population and accuracy of outpatient adherence, further research is needed.

Brown, Meghan

Title: Probiotic Effectiveness for the Treatment of Antibiotic-Associated Diarrhea in Patients Receiving High-Risk Antimicrobials vs Low-Risk Antimicrobials

Brown, Meghan - Author[1]; Morrissey, Willaim - Co-Author[1]; Rubio, Andrew - Co-Author[1]
[1]TriStar Summit Medical Center

Background/Purpose

Antibiotic-associated diarrhea (AAD) is one of the most common adverse-effects reported with broad-spectrum antibiotics. AAD is defined as three or more loose stools occurring within 24 hours. The use of probiotics in the prevention and treatment of AAD remains controversial amongst the healthcare community. In a large study conducted by Hempel and colleagues with 11,811 patients, probiotic administration was effective in the treatment of AAD. The primary objective in this study was to compare the effectiveness of probiotics for the treatment of AAD in patients receiving high-risk and low-risk antimicrobials.

Methods

Retrospective, single center, observational review. Patients receiving *Lactobacillus acidophilus* (*L. acidophilus*) were identified via clinical pharmacist workflow tool and patient charts were manually assessed for inclusion. Patients were included if they were inpatient, ≥ 18 years old, on antimicrobial therapy, experiencing AAD, and receiving probiotics. Patients were excluded if they received probiotics prior to admission, admitting diagnosis was diarrhea or *Clostridioides difficile*. Effectiveness of probiotics was defined by the improvement in range of number of stools in a 24-hour period including ≥6 bowel movements, 3-5 bowel movements, and ≤ 2 bowel movements

Results

A total of 2,649 patients were assessed for inclusion. Of these, 149 met inclusion criteria and were randomized to high-risk antimicrobial group (N=121) or low-risk antimicrobial group (N=28). Mean age was 67.9 ± 15.1 and 33.5% were male. Probiotic treatment was effective in treatment for AAD in 98.35% (119/121) of patients in the high-risk antimicrobial group and 100% (28/28) in the low-risk antimicrobial group. There was no statistical difference between groups in the primary outcome, high risk group, 119 vs low risk group, 28, P=0.49. There was also no statistical difference in thirty-day readmission rate (13.2% vs 25%; P= .120) or development of *Clostridioides difficile* (20% vs 21.4%; P= .87). There were no bloodstream infections as a result of the use of probiotics noted in either group.

Conclusions

The use of *L. acidophilus* probiotics in the treatment of AAD led to no significant difference between high-risk antimicrobial groups versus low-risk antimicrobial group. *L. acidophilus* remains a safe and effective therapy for the treatment of AAD

Butterfass, Courtney

The effect of hyperglycemia on outcomes in hospitalized COVID-19 patient without diabetes receiving corticosteroids

Butterfass, Courtney - Author[1]; Hunt, Molly - Co-Author[1]; Wells, Lindsey - Co-Author[1]
[1]Memphis VA Medical Center

Background/Purpose

Hospitalized veterans with uncontrolled hyperglycemia are at known risk of worse clinical outcomes. In the setting of COVID-19 and steroid use, it is important to understand the risk of uncontrolled hyperglycemia even in patients that have no history of diabetes mellitus (DM) as this could impact how aggressively hyperglycemia is treated while providing steroid therapy. The purpose of this study is to evaluate the clinical effects of steroid-induced hyperglycemia in hospitalized, COVID-19 patients with no previous history of diabetes mellitus in a veteran population.

Methods

This study is a retrospective, cohort, observational chart review of veterans admitted to all Veteran's Affairs medical centers in the Midsouth Healthcare Network. Patients with diagnosed or suspected COVID-19 receiving either dexamethasone or methylprednisolone from February 1,2020 to April 30, 2022 will be identified. Patients will be excluded if they have a prior history of DM. The remaining patients will be categorized based on normoglycemia (control group) versus uncontrolled hyperglycemia (study group) during admission. Uncontrolled hyperglycemia will be defined as 3 or more blood glucose readings greater than 180 mg/dl during admission while receiving steroid therapy. The primary outcome is hospital mortality. Secondary outcomes include hospital length of stay, admission to ICU during hospitalization, ICU length of stay, need for noninvasive positive pressure ventilation, mechanical ventilation, renal replacement therapy, and vasopressor therapy. Descriptive statistics will be used to analyze demographic data. Continuous outcomes will be analyzed with student's t-test for parametric data and Mann Whitney U for nonparametric data. Categorical outcomes, including the primary outcome, will be analyzed with chi square or Fisher's exact tests.

Results

Pending further data analysis.

Conclusions

Pending.

Calcote, Claire

The Effect of Inappropriate Surgical Prophylactic Regimens on Surgical Site Infections in Intra-abdominal Surgeries

Calcote, Claire - Author[1]; Wagner, Jamie - Co-Author[2]
[1]Saint Dominic - Jackson Memorial Hospital, [2]University of Mississippi School of Pharmacy

Background/Purpose

Surgical site infections (SSIs) are common but preventable healthcare-associated infections that increase patient mortality, morbidity, length of inpatient stay, and overall healthcare costs. National standards exist through the Surgical Care Improvement Project (SCIP) and National Surgical Quality Improvement Program (NSQIP) guidelines regarding antimicrobial surgical prophylactic agents and duration; however, noncompliance continues to be an issue nationwide. Prior literature has demonstrated that inappropriate prophylactic regimens are associated with adverse effects such as SSIs, acute kidney injury, and *Clostridioides difficile* infections. The most current recommendations for antimicrobial prophylaxis in intra-abdominal surgeries includes broad-spectrum coverage with a second-generation cephalosporin, such as cefoxitin. Other beta-lactams, such as ampicillin-sulbactam and ertapenem are also recommended; however, for patients with a beta-lactam allergy, clindamycin or vancomycin are suitable for gram-positive coverage, whereas aztreonam or a fluoroquinolone are gram-negative coverage alternatives. Previous studies have identified risk factors along with complications of inappropriate surgical prophylaxis regimens; however, no relationship between improper regimens and increased risk of SSIs has been established. Therefore, this study is designed to assess the inappropriate use of prophylactic antibiotics and the impact such use has on the development of SSIs in intra-abdominal surgeries.

Methods

This retrospective case-control was approved by the institutional review board. Included study participants were inpatient adults undergoing intra-abdominal surgery between January 2018 and December 2021 who received prophylactic antibiotics specifically for upcoming intra-abdominal surgery. Patient were excluded if they were pregnant during the time frame, had HIV or cystic fibrosis, were immunosuppressed, had an active infection prior to surgery, or underwent a previous abdominal surgery within 6 months. The primary outcomes were SSI development and selected prophylactic regimen alignment with SCIP guidelines. Secondary outcomes included 30-day hospital readmission, 30-day all-cause, inpatient mortality, *C. difficile* prevalence, and antimicrobial-related adverse effects.

Results

Pending

Conclusions

Pending final results

Callaway, Katelynn

Impact of Lactated Ringer's Solution versus Normal Saline on Diabetic Ketoacidosis Resolution

Callaway, Katelynn - Author[1]; Gibbs, Andrew - Co-Author[1]; Ezell, Dustin - Co-Author[1]; Hamilton, Eric - Co-Author[1]
[1]Baptist Health Medical Center- North Little Rock

Background/Purpose

Normal Saline (NS) is the standard therapy for fluid resuscitation in diabetic ketoacidosis (DKA). NS can cause non-anion gap hyperchloremic acidosis, which may contribute to decreased pH in the midst of DKA. There is conflicting literature surrounding whether balanced crystalloids such as Lactated Ringer's solution (LR) and Plasma-Lyte allow for faster DKA resolution and less organ injury due to their closer resemblance to human plasma. The intention of this study is to determine if LR allows for faster resolution of DKA compared to NS in adult patients admitted to a state-wide community hospital system.

Methods

This retrospective cohort study included adult patients admitted to the hospital between January 2019 and December 2021 with a diagnosis of DKA. Time to DKA resolution was compared between patients treated with IV LR and NS. Secondary analyses included components of DKA resolution, time to discontinuation of continuous insulin infusion, average cost of fluids, new onset kidney injury, all-cause readmission within 60 days, re-opening of anion gap, inpatient mortality, and length of hospital and intensive care unit stay.

Results

A total of 69 patients were included, with 17 patients in the LR group and 52 in the NS group. Time to DKA resolution did not differ between the groups ($p = 0.306$). Time to discontinuation of continuous insulin infusion (median 17.4 v 25.1 hours, $p = 0.015$) was significantly faster and fluid cost (median \$6.30 v \$13.48, $p = 0.008$) was significantly lower in the LR group. There were no other significant outcomes observed.

Conclusions

In adult patients hospitalized with DKA, time to DKA resolution was not shortened with the use of LR. However, LR may provide faster discontinuation of continuous insulin infusions as well as offer favorable cost.

Cate, Spencer

Evaluate the Effectiveness of a Higher Intensity VTE Prophylaxis Protocol Implemented in Critically Ill and Non-Critically Ill COVID-19 Patients at a Large Community Hospital

Cate, Spencer - Author[1]; Tiemann, Maria - Co-Author[1]; Baird, Mallory - Co-Author[1]; Brunson, Allison - Co-Author[1]
[1]Baptist - Memphis

Background/Purpose

The COVID-19 virus presents a unique set of clinical challenges including a hypercoagulable state leading to potential morbidity and mortality. Previous guidelines for the management of adults with COVID-19 recommended pharmacologic venous thromboembolism (VTE) prophylaxis; however, guidelines on dosing had yet to be elucidated. At the beginning of the COVID-19 pandemic, Baptist Memorial Hospital – Memphis implemented a higher intensity protocol for VTE prophylaxis dosing based on the biomarker D-dimer for both critically ill and non-critically ill patients. The purpose of this study aims to assess the efficacy and safety of this higher intensity VTE prophylaxis protocol.

Methods

This study is a single-center, retrospective chart review of patients admitted from August 1st, 2021 to October 31, 2021. COVID-19 patients with a length of stay greater than 48 hours were included. The primary outcome is VTE incidence in critically ill and non-critically ill COVID-19 patients receiving higher intensity VTE prophylaxis compared to standard VTE prophylaxis. Secondary outcomes include percentage of patients achieving target anti-Xa levels, in-hospital mortality, and incidence of bleeding between groups. The primary and secondary outcomes were analyzed using descriptive statistics. This study was submitted to the Baptist Institutional Review Board for approval.

Results

A total of 646 patients were screened and 438 patients were included with 44 (10%) in the higher intensity VTE prophylaxis group and 394 (90%) in the standard VTE prophylaxis group. The incidence of the primary outcome was 6.8% in the higher intensity group and 2.2% in the standard group (p=0.081). There was no statistical difference in terms of target anti-Xa levels or in terms of bleeding between groups. Mortality was statistically higher in the high intensity group (32%) compared to the standard group 13% (p=0.01).

Conclusions

In COVID-19 patients receiving anticoagulation, no statistical difference was observed in VTE development between the higher intensity VTE prophylaxis and standard VTE prophylaxis groups. High intensity protocol patients had a higher D-dimer along with a higher ICU admission rate which could have contributed to the higher rate of mortality observed. Given limitations in the study population, further research is needed to guide decision-making.

Caviness, Lisa

Efficacy and Tolerability of a Formulary Conversion from Dulaglutide to Semaglutide in a Veteran Population

Caviness, Lisa - Author[1]; Sullivan, Josh - Co-Author[1]; Ponnapula, Suzy - Co-Author[1]; Townsend, Nick - Co-Author[1]
[1]Memphis VAMC

Background/Purpose

Glucagon-like peptide-1 receptor agonists (GLP-1a) are a class of medications that exert their physiologic effects via interaction with incretin hormone receptors to increase glucose-dependent insulin secretion, decrease inappropriate glucagon secretion, and slow gastric emptying. [1-2] Due to their multi-modal mechanism of action, GLP-1a agents have become a mainstay of therapy. These agents not only reduce A1c, but also positively impact weight, nephropathy, and cardiovascular (CV) risk.
Recent studies have provided head to head comparisons between GLP-1a agents. The SUSTAIN 7 trial, which was a 40 week open-label, parallel-group, phase 3b trial, found that semaglutide at both low and high doses was superior to dulaglutide in improving A1c and reducing body weight.[3] Though data exists to support superiority/inferiority with regards to efficacy, minimal data exists comparing A1c and weight reductions when transitioning between agents. In addition, minimal literature is available detailing safety/tolerability of GLP-1a when switching between agents.
This study aims to provide additional information to guide clinicians on making safe and efficacious transitions between two GLP-1a agents.

Methods

The study will be a retrospective, observational analysis of Veterans aged 18 and older prescribed dulaglutide at maximally tolerated doses for at least three months that are transitioned to semaglutide at maximally tolerated doses for at least three months with no greater than 3 months of time off of GLP-1a therapy between agents. An electronic chart review will be employed to analyze changes in A1C, weight, incidence of adverse events, and rates of discontinuation. Baseline data including age, sex, pertinent comorbidities, other DM medications, and information pertinent to therapy (such as non-compliance to regimen) will also be collected. Efficacy will primarily evaluated based on A1C and weight changes. Tolerability will be assessed with rates of adverse events and whether these events led to discontinuation of the agent.

Results

Data Collection Ongoing.

Conclusions

Pending completion of data collection and analysis.

Claxon, Evan

Justification and Expansion of Pharmacist Services after Implementation of Pharmacy Directed Intervention Categories

Claxon, Evan - Author[1]; Kramer, Joan - Co-Author[1]; Burgess, Hayley - Co-Author[1]; Wines, Kahari - Co-Author[1]; Borum, Cindy - Co-Author[1]
[1]HCA Healthcare

Background/Purpose

Understanding the optimal clinical pharmacist services model is a continued effort among health systems. Clinical surveillance software can be used to notify pharmacists of clinical opportunities to maximize workflow efficiency.[1] Optimized workflows result in a reduction in adverse events, cost savings, and improved patient clinical outcomes.[1-4] The purpose of this quality improvement project is to retrospectively evaluate the impact of clinical surveillance interventions on pharmacist workflow before and after implementation of a pharmacy directed prioritization category for a large health system. Findings will contribute to a financial evaluation of pharmacist productivity.

Methods

In 2021, a large health system began a clinical pharmacy workflow optimization project for 174 hospitals by selecting and moving specific high and routine clinical pharmacist interventions to a new pharmacy directed prioritization category. The pharmacy directed prioritization category was defined as clinical interventions that pharmacists were able to resolve via facility policy or protocol, and that when acted upon in a timely manner may result in medication cost savings. This retrospective quality improvement project is a pre-post analysis of de-identified, pre-populated data for the pre-implementation time period of January to September 2021 compared to the post-implementation time period of November 2021 to January 2022. The primary outcome is to assess clinical pharmacist workflow productivity by evaluating pharmacy directed, high, and routine priority clinical interventions by shift, time to acknowledgement, percent completed, and clinical metric performance.

Results

In Progress - Results will be described in presentation

Conclusions

In Progress

Clayton, Kelsey

Melatonin use in pediatric critical care

Clayton, Kelsey - Author[1,2]; Bobo, Kelly - Co-Author[1,2]
[1]Le Bonheur Children's Hospital, [2]University of Tennessee Health Science Center

Background/Purpose

Administration of melatonin is common during the recovery period in intensive care units to facilitate sleep onset. Melatonin is an agent that may help mediate intensive care unit related pain and delirium. The purpose of this project is to describe the use of melatonin in pediatric critical care illness and any associated changes in opioid and benzodiazepine utilization, pain, and delirium scores compared to a matched control group.

Methods

This is a retrospective review of the electronic health record for all patients 0 – 18 years from January 1, 2017 through June 30, 2021 who received melatonin, an opioid, and a benzodiazepine while admitted to the PICU, CVICU, or neuro ICU at our institution. Patients who received melatonin at home, received zero or one dose while admitted, or patients not on both an opioid and benzodiazepine will be excluded. Information to be collected includes patient demographics, cumulative dose and length of therapy of opioids and benzodiazepines, delirium scores, pain scores, concomitant delirium-treating medications, use of propofol or dexmedetomidine infusions, and length of stay in the intensive care unit. Patient demographics include sex, age, and weight. Patients will then be matched to a control group ratio of 1:2 (treatment:control), who did not receive melatonin, who were also on both an opioid and benzodiazepine, while admitted to the PICU, CVICU, or neuro ICU at our institution. The information to be collected on the control group will be the same information collected in the melatonin arm. The control group patients will be matched based on demographics, median length of stay, and critical care unit.

Results

Preliminary results show that cumulative opioid doses decreased from 89.6 to 68.5 mg morphine post-melatonin ($p=0.005$). Cumulative benzodiazepine doses also decreased from 31.9 to 23.9 mg lorazepam post-melatonin ($p < 0.001$). There was not a significant difference in pain scores post-melatonin (1.8 vs 1.4, $p=0.15$).

Conclusions

Preliminary data shows that melatonin use was associated with a decrease in utilization of opioids and benzodiazepines, but did not significantly affect pain scores.

Coalter, Carli

Comparison of short vs. extended antibiotic durations for patients in the neonatal intensive care unit with late onset, culture negative sepsis

Coalter, Carli - Author[1]; Stultz, Jeremy - Co-Author[2]; Lee, Kelley - Co-Author[1]
[1]Le Bonheur Children's Hospital, [2]University of Tennessee Health Science Center

Background/Purpose

Neonatal sepsis occurs before 28 days of age and is termed early-onset sepsis or late-onset sepsis (LOS). Although the definition is controversial, we defined LOS as sepsis at ≥ 7 days of life. Because neonatal sepsis is a leading cause of morbidity and mortality, some clinicians treat patients with possible signs of sepsis despite no identified pathogen. The appropriate duration of therapy for antimicrobials for neonatal culture negative sepsis is unknown. However, due to the many complications with longer antibiotic durations, the shortest duration of therapy without causing harm is ideal. The purpose of this research is to compare clinical outcomes in patients who received 48-72 hours of antibiotics or 5-7 days of antibiotics.

Methods

This is a single center, retrospective, cohort study reviewing the electronic health record for patients admitted to a pediatric tertiary care hospital from January 1, 2020 to June 30, 2021. Inclusion: NICU patients 7 days of age to ≤ 44 weeks post menstrual age receiving empiric antibiotics for 2 days or more with negative culture results. Patients treated for necrotizing enterocolitis will be excluded. The primary outcome is resolution of symptoms assessed at 7 days. Resolution of symptoms is defined as partial or complete resolution of initiating signs/symptoms, and in the < 72 hour group no re-initiation of antibiotics for same symptoms, and no development of new symptoms or infection between 72 hours and 7 days. Resolution of symptoms in the 5-7 day group include no broadening of coverage due to continued or worsening symptoms. An assessment will be conducted at 48 hours to see what variables impact resolution of symptoms including: demographics, culture results, symptoms, antibiotics, and antibiotic duration. We will also assess treatment failure, defined as re-initiation of antibiotics for greater than 48 hours 10 days post discontinuation or mortality within 7 days of discontinuing antibiotics. Groups will be described as percentages, means, or medians. Univariable and multivariable logistic regression will be used to identify if antibiotic duration independently impacts the resolution of symptoms after controlling for baseline patient differences between groups.

Results

Results will be described.

Conclusions

Conclusions to be determined.

Cole, Madison

Association Between Early Administration of Tocilizumab and Mortality Among Patients Hospitalized with COVID-19

Cole, Madison - Author[1]; Underwood, Elizabeth - Co-Author[1]; Smtih, Forrest - Co-Author[2]
[1]Unity Health - White County Medical Center, Searcy, Arkansas, [2]Harding University College of Pharmacy, Searcy, Arkansas

Background/Purpose

On June 24, 2020, the U.S. Food and Drug Administration (FDA) utilized its authority to grant Emergency Use Authorization (EUA) of Actemra (tocilizumab), an interleukin-6 receptor antagonist, as a therapeutic option for COVID-19. The FDA cited four trials in their EUA: RECOVERY, EMPACTA, COVACTA, and REMDACTA. While the RECOVERY and EMPACTA trials reported statistically significant results, the COVACTA and REMDACTA trials did not reach statistical significance, and the data from these trials was used to assess safety in the treatment of COVID-19. This research focuses on institutional data to help guide therapy in its patient-specific population.

Methods

This retrospective chart review includes all patients who received tocilizumab from June 24, 2021 to November 3, 2021. To compare mortality, patients are categorized based on the timing of their first dose: patients who received their first dose ≤ 48 hours from admission and patients who received their first dose > 48 hours from admission. In both categories, patients are further categorized into patients not requiring mechanical ventilation at first dose to compare the percent of patients requiring mechanical ventilation after receiving the first dose of tocilizumab. Patients less than 18 years of age and patients receiving tocilizumab without COVID-19 as the primary diagnosis are excluded from this review. The primary outcome is to evaluate the association between timing of first dose and mortality in patients receiving tocilizumab while hospitalized with COVID-19. Secondary outcomes are requiring mechanical ventilation after receiving tocilizumab.

Results

Mortality between patients who received their first dose ≤ 48 hours (7/26; 27%) and > 48 hours (9/21; 43%) after admission was not statistically significant using Chi-Square analysis (x^2=0.6, p=0.61). In addition, the secondary outcome analyzing need for mechanical ventilation after receiving the first dose of tocilizumab between the ≤ 48 hour (8/26; 31%) and > 48 hour (8/16; 50%) groups was not statistically significant (x^2=0.7, p=0.41).

Conclusions

Mortality and need for intubation between patients that received tocilizumab ≤ 48 hours and > 48 hours after admission was not statistically significant.

Cole, Peyton

Attainment of Therapeutic Vancomycin Troughs Using Patient-Specific versus Population-Based Kinetics in a Rural Hospital

Cole, Peyton - Author[1]; Turner, Shawn - Co-Author[1]; Smith, Forrest - Co-Author[2]
[1]Unity Health - White County Medical Center, [2]Harding University College of Pharmacy

Background/Purpose

Current IDSA guidelines recommended dosing vancomycin to target an AUC/MIC ratio of 400-600 as opposed to the traditional trough-based dosing to achieve therapeutic concentrations while reducing renal toxicity. Despite this guidance, many pharmacy clinicians still dose to achieve a specific trough range based on indication. Of those who still dose to achieve specific trough ranges, some use population-based kinetics and some use patient-specific kinetics when determining dosing regimens. This study will evaluate the difference of initial therapeutic trough achievements when dosing based on population-based kinetics versus patient-specific kinetics, using an online pharmacokinetics calculator, in a rural hospital.

Methods

This retrospective study will determine if vancomycin troughs are more likely to be therapeutic in patients using population-based versus patient-specific factors for dosing. Therapeutic levels will be defined as a vancomycin trough of either 10-15 or 15-20 based on indication. Investigator will retrospectively pull patient data through the medical record and from archived vancomycin dosing data used to monitor vancomycin regimens while patients are hospitalized. Investigator will use the online pharmacokinetics calculator to utilize patient-specific factors to determine ideal initial regimens and calculate predicted steady-state troughs. Troughs will be evaluated and compared at steady-state concentration for therapeutic levels based on treatment indication.

Results

Formulating an initial vancomycin dosing regimen using the patient-specific online pharmacokinetic calculator yielded a therapeutic trough more often than the current institution's population-based dosing strategy, 28/55 (51%) vs. 17/55 (31%), $x^2 = 4.55$, $p = 0.033$. The secondary outcome of evaluating days until therapeutic trough was not significantly different between the two groups, 2.5 days(1.3) vs. 2.3 days(1.1), $t=0.51$, $p=0.613$.

Conclusions

Utilizing the online vancomycin dosing calculator with patient-specific factors for the initial dosing regimen yielded a therapeutic trough more often than the current initial dosing algorithm utilizing renal function and weight alone. These results could lead our institution to adopt this improved dosing strategy utilizing the patient-specific kinetics calculator.

Collier, Sarah

Evaluation of antipsychotic prescribing patterns for agitation and delirium in the critical care setting and discontinuation during transitions of care

Collier, Sarah - Author[1]; Perry, David - Co-Author[1]; Butler, Robert - Co-Author[1]; McElroy, Laura - Co-Author[1]; Binkley, Jeff - Co-Author[1]
[1]Maury Regional Medical Center

Background/Purpose

Agitation and delirium in the critical care setting has been shown to affect anywhere from 30-80% of patients. Antipsychotics are the pharmacological mainstay of treatment for agitation and delirium in patients admitted to the critical care floor at this study institution. Due to the increased risks that antipsychotics carry, it is warranted to further evaluate the usage of this medication class. The purpose of this study is to assess the appropriateness of prescribing antipsychotics for agitation and delirium in the critical care unit and evaluating the frequency of timely discontinuation during transitions of care.

Methods

This retrospective cohort, single center study will review all patients prescribed antipsychotic medications for agitation or delirium while in critical care at our institution between August 2020 and July 2021. Patients that expired before discharge, prescribed antipsychotics prior to admission, or were continued on antipsychotics for hospice care will be excluded from the study. The primary outcome will define the rate of antipsychotic continuation in patients at transfer from the critical care setting to the floor and at discharge. The secondary outcome will assess prescribing patterns of antipsychotics based on standardized assessment scores for agitation and delirium.

Results

In progress. Results will be described.

Conclusions

Results will be described.

Conaway, Brandon

Evaluation of Appropriate VTE Prophylaxis Based on Padua Prediction Score Among Patients With Diagnosed Hospital-Acquired Venous Thromboembolism

Conaway, Brandon - Author[1]; Brunson, Allison - Co-Author[1]; Crawford, Allie - Co-Author[1]; Burton, Ginger - Co-Author[1]
[1]Baptist-Memphis

Background/Purpose

Venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism (PE), is common in hospitalized patients and leads to increases in mortality, health-care costs, and extended hospitalization stays. Guidelines recommend risk assessment methods to determine patients who will benefit from prophylaxis. Padua Prediction Score (PPS) is an extensively studied risk assessment model. Our institution utilizes the Modified PPS on hospital admission. The purpose of this study is to evaluate the appropriateness of the initial VTE prophylaxis regimen based on PPS in patients who had a hospital-acquired VTE.

Methods

This single-center, IRB approved, retrospective chart review was conducted on patients who developed a hospital-acquired VTE from June 1, 2016 to December 31, 2020. Patients with oral anticoagulation prior to admission, VTE diagnosis upon admission, direct admission to the ICU, positive COVID diagnosis, and contraindications to pharmacologic or mechanical VTE prophylaxis were excluded. The primary outcome was incidence of appropriate VTE prophylaxis based on the Modified PPS in patients who developed a hospital acquired VTE. Secondary outcomes include hospital length of stay (LOS), and hospital mortality. Primary and secondary outcomes were analyzed using descriptive statistics.

Results

A chart review of 308 patients was conducted, with 248 patients excluded. A total of 60 patients were included, with 41 patients (68.3%) having appropriate VTE prophylaxis based on Modified PPS and 19 patients (31.7%) having inappropriate VTE prophylaxis base on Modified PPS. In the appropriate group the median hospital LOS was 15 [11-26] days and the hospital mortality rate was 8 (19.5%) patients. In the inappropriate group the median hospital LOS was 14 [7-20.5] days and hospital mortality rate was 3 (15.8%) patients.

Conclusions

This study found that despite appropriate initial VTE prophylaxis based on Modified PPS, patients are still prone to developing a hospital-acquired VTE. Our patient population had a longer than average median length of stay at 15 days. Patient populations requiring high-acuity care and extended hospital LOS have a higher risk of developing hospital-acquired VTE. Further studies with larger sample sizes are needed to evaluate the effect of appropriate or inappropriate VTE prophylaxis regimens on the development of hospital-acquired VTEs.

Coomes, Jacob

Expansion of Ambulatory Care Pharmacy Services at a Hospital Owned Primary Care Clinic

Coomes, Jacob - Author[1]
[1]Cookeville Regional Medical Center

Background/Purpose

Currently, ambulatory care pharmacy services within the hospital system include managing patients within a cardiology clinic. The purpose of this project is to expand pharmacy services to a primary care clinic owned by the hospital

Methods

The extent of the pharmacist to manage patients will be outlined in a written collaborative practice agreement. Clinical pharmacist will identify high risk patients and present to providers for management. After pharmacist is consulted to manage patient, they will work according to written collaborative practice agreement and adjust medical therapy as necessary. Disease states and medication areas that will be managed by the clinical pharmacist will include, but are not limited to: diabetes, hypertension, dyslipidemia, heart failure, anticoagulation, chronic obstructive pulmonary disease, and smoking cessation. Data will be collected from all interventions over a 3 month period at minimum with goal of 6 month evaluation period.

Results

Will be discussed.

Conclusions

Will be discussed.

Coutinho, Kyle

Implementation of a Clinical Decision Support System at a Community Based Medical Center

Coutinho, Kyle - Author[1]
[1]Cookeville Regional Medical Center

Background/Purpose

There are limited reports of medical systems implementing clinical decision support systems and studying the impact that they have on patients, providers, departments, and the medical system as a whole. This project will study the optimization of a clinical decision support system (CDSS) in a community hospital. The purpose of this study is to observe the change in number of interventions made by clinical pharmacists, clinical pharmacist job satisfaction, ease of use of the clinical decision support system, and estimated cost savings.

Methods

The implementation of the CDSS will occur in a 269 bed community based medical center that is situated in the Upper Cumberland Plateau of Central Tennessee and serves 14 surrounding counties. A job satisfaction survey of clinical pharmacists will be collected prior to and after implementation of the electronic clinical decision support system. Additionally, the survey will include questionnaires regarding ease-of-use of the system. Also, data will be collected to determine change in the number of interventions and associated cost-savings.

Results

To Be Determined

Conclusions

To Be Determined

Curry, Brent

Changes in delivery of immunosuppressive medications and the impact on drug concentrations in pediatric kidney transplant recipients

Curry, Brent - Author[1]; Blake, Laura - Co-Author[1]; Baker, Mandy - Co-Author[1]; Blaszak, Richard - Co-Author[2,1]; Ranabothu, Saritha - Co-Author[1,2]
[1]Arkansas Children's Hospital, [2]University of Arkansas for Medical Sciences

Background/Purpose

Calcineurin inhibitors (e.g. tacrolimus), are immunosuppressive medications designed to preventing organ rejection. Multidisciplinary transplant teams develop individualized therapeutic goals for each patient. Changes in delivery of tacrolimus from suspension to solid dosage forms or administration from feeding tube to oral administration may alter pharmacokinetic properties resulting in abnormally high or low drug concentrations. It is important for the transplant team to understand the potential impact that a change in delivery method may have on serum tacrolimus concentrations.

Methods

A retrospective chart review of children who received a kidney transplant between January 2017 and November 2021, received tacrolimus and experienced a change in the delivery method were examined. Tacrolimus levels were calculated following each change in administration. Time to follow-up level, time to target level, and change in dose necessary to achieve the patient's target level were measured.

Results

16 patients over the span of the study period had a change in method of delivery; 10 patients changed from suspension to capsule while 6 patients stopped using their gastrostomy tube and began taking tacrolimus by mouth. Moving from suspension to capsules resulted in a change in tacrolimus level by 3.09 +/- 4.29 ng/mL and a median time of 12 days to achieve target levels. Average dose changes to achieve target levels was 0.6 +/- 0.9 mg. In children changing from administration via gastrostomy to mouth. The change in tacrolimus level was 4 +/- 3.18 ng/mL with a median time of 4 days to return to target levels. These patients required a dose change of 0.1 +/- 0.1 mg. Of note, 7 patients experienced supratherapeutic levels (5 transitioning to capsules, 2 transitioning to oral administration) and 2 subtherapeutic (2 transitioning to capsules)

Conclusions

Alterations in the delivery method of calcineurin inhibitors can produce large variabilities in drug concentration. Converting a patient to capsules may result in a larger impact on levels than changing route of administration. Due to this variability, follow up labs should be scheduled soon after any change in delivery method to ensure patient safety and that drug levels remain within target.

Dairion, Dominique

Evaluation of Early versus Late Thromboprophylaxis Initiation in Adult Patients with Diagnosed Hospital-Acquired Venous Thromboembolism

Dairion, Dominique - Author[1]; Crawford, Allie - Co-Author[2]; Brunson, Allison - Co-Author[3]; Burton, Ginger - Co-Author[3]

[1]Baptist - Memphis, [2]Baptist -Memphis, [3]Baptist-Memphis

Background/Purpose

Venous thromboembolism (VTE), including deep vein thrombosis and pulmonary embolism, is common in hospitalized patients leading to increases in mortality rates and extended hospitalization stays. Guidelines recommend hospitalized patients receive pharmacologic or mechanical VTE prophylaxis. There is currently minimal published data on the optimal timing of VTE prophylaxis initiation. The purpose of this study is to evaluate the association between early versus late initiation of VTE prophylaxis in patients diagnosed with a hospital-acquired VTE.

Methods

This single-center, IRB-approved, retrospective chart review included adult patients diagnosed with a hospital-acquired VTE at Baptist-Memphis from June 1, 2016 to December 31, 2020. Patients prescribed oral anticoagulation prior to admission, diagnosed with VTE or initiated on therapeutic anticoagulation upon admission, admitted directly to the ICU, diagnosed with SARS-CoV-2, and with any contraindication to chemical or mechanical VTE prophylaxis were excluded. Early initiation was defined as VTE prophylaxis administration within 24 hours of hospital admission and late initiation as administration after 24 hours of hospital admission. Secondary outcomes include hospital length of stay (LOS) and 30-day mortality. Primary and secondary outcomes were evaluated using descriptive statistics.

Results

A chart review of 308 patients was conducted with 248 patients excluded. A total of 60 patients were included, with 52 patients (86.7%) in the early VTE prophylaxis initiation group and 8 (13.3%) in the late VTE prophylaxis initiation group. The median LOS was 15 [10-27] days in the early VTE prophylaxis initiation group and 12 [7-18] days in the late VTE prophylaxis initiation group. The mortality rate was 10 (19.2%) patients in the early VTE prophylaxis initiation group and 1 (12.5%) patient in the late VTE prophylaxis initiation group.

Conclusions

This study found that despite early VTE prophylaxis initiation, many patients developed a hospital-acquired VTE. The study's patient population had a longer median length of stay than average and higher level of acuity characterizing a population at increased risk of developing hospital-acquired VTE, despite early prophylaxis initiation. Further studies with a larger sample size are needed to evaluate the effect of early versus late VTE prophylaxis initiation on the development of hospital-acquired VTEs.

Daniels, John

The Utility of Liposomal Bupivacaine in a Multimodal Pain Management Regimen for Total Hip and Knee Arthroplasties at a Rural Academic Medical Center

Daniels, John - Author[1]; Ashby, Margo - Co-Author[1]; Pruitt, Josh - Co-Author[1]
[1]Baptist Health Deaconess Madisonville

Background/Purpose

Hip and knee arthroplasties are routinely performed surgeries in the United States, with over one million procedures completed annually. A challenge associated with arthroplasties is adequate post-operative pain control. The current standard of care is multimodal pain management, which uses medications with different mechanisms of action to alleviate pain. Opioid only pain management protocols have fallen out of favor due to addiction potential and side effect profile. Specifically, the central nervous system adverse effects associated with opioids hinder early mobilization and physical therapy efforts, prolonging length of stay, and increasing the risk of venous thromboembolism.

Liposomal bupivacaine utilization is increasing in hospitals across the United States as a component of enhanced recovery after surgery protocols. Bupivacaine binds to voltage gated sodium channels and prevents sodium from entering neurons. This mechanism of action prevents depolarization and the transmission of pain signals. The liposomal formulation is designed to be slowly released over time following injection into the surgical site. The local analgesic effect leads to reduced adverse events and could theoretically minimize the need for opioids. By analyzing patient reported pain, opioid utilization, and length of stay, and medication costs, the utility of liposomal bupivacaine in comparison to bupivacaine for post operative pain management can be determined.

Methods

EHR utilization reports were used to identify patients who underwent a total hip or knee arthroplasty from September 2021 to March 2022 at Baptist Health Deaconess Madisonville. Pain scores, opioid utilization (in total MMEs), and length of stay will be compared between the groups of patients who received bupivacaine versus those who received liposomal bupivacaine.

Results

Results are ongoing and will be available at the time of presentation.

Conclusions

Conclusion is pending

Dezfuli, Chelsea

Assessment of Outcomes Associated with Hypoglycemia in Intensive Care Unit Patients at a Large Community Hospital

Dezfuli, Chelsea - Author[1]; Tiemann, Maria - Co-Author[1]; Krushinski, Kelsey - Co-Author[1]; Crawford, Allie - Co-Author[1]
[1]Baptist - Memphis

Background/Purpose

Studies have shown tight blood glucose (BG) control in the hospital is associated with an increased risk of severe hypoglycemia, mortality, and length of stay (LOS). The Society of Critical Care Medicine guidelines recommend targeting a BG range of 100-150 mg/dL for most critically ill patients. Hypoglycemia is defined as a BG of less than 70mg/dL, while severe hypoglycemia is defined as a BG level less than 40mg/dL. The purpose of this study is to evaluate ICU LOS in critically ill patients who experience hypoglycemia and assess pharmacologic interventions as it pertains to BG management.

Methods

This is a single-center, retrospective chart review that evaluated adult diabetic patients admitted to the ICU from Jan 1, 2019 to Jan 1, 2020 that experienced hypoglycemia. Adult patients with a past medical history of diabetes with a scheduled anti-diabetic regimen were included. Patients admitted with a BG < 70mg/dL, or those patients with endocrinology consult were excluded. The primary objective of this study was to evaluate ICU LOS in patients who experience hypoglycemia and assess pharmacologic interventions. Secondary objectives include recurrent hypoglycemia, percentage of pharmacologic interventions at the first BG 70–99mg/dL, 40-69mg/dL, < 40mg/dL. Key data collection points included baseline characteristics, home diabetic therapy, LOS, acute kidney injury within 48 hours of hypoglycemic event, treatment of hypoglycemia, BG readings, number of hypoglycemic events during hospitalization, and mortality. The primary and secondary objectives were analyzed with descriptive statistics. This study has been approved by the Institutional Review Board.This is a single-center, retrospective chart review that evaluated adult diabetic patients admitted to the ICU from Jan 1, 2019 to Jan 1, 2020 that experienced hypoglycemia. Adult patients with a past medical history of diabetes with a scheduled anti-diabetic regimen were included. Patients admitted with a BG < 70mg/dL, or those patients with endocrinology consult were excluded. The primary objective of this study was to evaluate ICU LOS in patients who experience hypoglycemia and assess pharmacologic interventions. Secondary objectives include recurrent hypoglycemia, percentage of pharmacologic interventions at the first BG 70–99mg/dL, 40-69mg/dL, < 40mg/dL. Key data collection points included baseline characteristics, home diabetic therapy, LOS, acute kidney injury within 48 hours of hypoglycemic event, treatment of hypoglycemia, BG readings, number of hypoglycemic events during hospitalization, and mortality. The primary and secondary objectives were analyzed with descriptive statistics. This study has been approved by the Institutional Review Board.

Results

60 patients were included in this study, 25 of which had a pharmacologic intervention. There were no statistical differences between the two groups and their baseline characteristics.

Furthermore, the average ICU LOS was 4 days for patients who had a pharmacologic intervention and 3 days for patients with no intervention, p=0.397.

Conclusions

There was no statistical difference in ICU or hospital LOS in patients that had a pharmacologic intervention than those who did not. As 88% of pharmacologic interventions occurred at BG 40-69 mg/dL there is a need for more proactive adjustments to prevent hypoglycemia from occurring.

Eaker, Rachell

Pharmacist-Driven Dosing of Therapeutic Enoxaparin Based on Anti-Xa Levels in Obese Patients

Eaker, Rachell - Author[1]; Bell, Ashley - Co-Author[1]; Hopkins, Brandy - Co-Author[1]
[1]CHI St. Vincent Infirmary

Background/Purpose

The purpose of this study is to develop a pharmacist-driven protocol to guide initiation of a reduced weight-based enoxaparin dose of 0.75 mg/kg for therapeutic treatment in obese patients while using anti-Xa levels to further optimize dosing. The goal is to determine if a reduced weight-based enoxaparin dose will result in therapeutic anti-Xa levels and lower the risk of bleeding in obese patients.

Methods

This study is a single-center, retrospective cohort study that includes pharmacist-driven, reduced weight-based therapeutic enoxaparin dosing for obese patients to provide evidence-based recommendations that support lower doses. Subjects will be included in the study if they meet all inclusion and exclusion criteria. Patients included will be treated based on the developed protocol and added to the pharmacist clinical list for follow-up monitoring for therapeutic anti-Xa levels and subsequent dose adjustments. Anti-Xa levels should be drawn 4 hours after 3 consecutive doses are given or any time the dose is adjusted. Goal anti-Xa levels are considered any level that is between 0.5-1 IU/ml. All treatment will be discussed by both the clinical pharmacist and overseeing physician to make sure treatment is accepted by each. A 2-sided p-value <0.05 will be considered statistically significant. Any proportions will be evaluated and compared using Chi-Square or Fisher's exact test. Any normally distributed, continuous data will be compared using a T-test. Categorical variables will be evaluated and compared using Chi-Square or Fisher's exact test. For any data that is non-normally distributed, it will be compared using Mann.

Results

At time of submission, post-protocol time period was still in effect (10/01/2021 – 03/31/2022). No results have been analyzed but will be after the protocol has been implemented for 6 months.

Conclusions

At time of submission, there is no conclusion to be drawn as post-protocol time period is still being implemented.

Easterling, Morgan

Treatment option comparison for urinary tract infections due to organisms with the potential to have AmpC mediated cephalosporin resistance

Easterling, Morgan - Author[1]; Stultz, Jeremy - Co-Author[1,2]; Lee, Kelley - Co-Author[1,2]; Herrera, Oscar - Co-Author[1,2]; Bagga, Bindiya - Co-Author[3,1]; Arnold, Sandra - Co-Author[3,1]
[1]Le Bonheur Children's Hospital, [2]University of Tennessee Health Sciences Center Department of Clinical Pharmacy and Translational Science, [3]University of Tennessee Health Sciences Center Department of Pediatrics, Division of Pediatric Infectious Diseases

Background/Purpose

Urinary tract infections (UTIs) are some of the most common infections in children. Numerous antibiotic courses can lead to resistant pathogens. Inducible AmpC beta-lactamases encoded on chromosomes of certain gram-negative organisms can show resistance after exposure to third-generation cephalosporins. Comparative studies regarding the treatment of UTIs caused by AmpC organisms are lacking. Infectious Diseases Society of America released guidance on the treatment of these organisms however, offered no clear recommendations for which agents to use, specifically in UTIs. The purpose of this project is to compare treatment outcomes between pediatric UTIs treated with different antibiotics.

Methods

This is a retrospective review of the electronic health record at a tertiary referral freestanding children's hospital for patients 0-18 years from January 2013 through December 2020 treated with ≥5 days of antibiotics for a UTI with *Citrobacter, Enterobacter, Morganella,* or *Serratia* species. Patients without antibiotic susceptibilities or <10,000 CFU/mL of the organism in the culture were excluded. Data was collected using each patient's first positive culture within the study period and included demographics, AmpC organism, antibiotic susceptibilities, pre-existing conditions, bacterial counts in urine, urinalysis values, fever, empiric antibiotics, definitive antibiotics, and treatment failure. Treatment failure is defined as lack of symptom resolution requiring a change of definitive antibiotics or re-initiation of antibiotics within 30 days from the end of previous course for a UTI with the same organism. Failure rates will be compared between treatment options via Chi-squared. Logistic regression will be used to control for differences in demographics, organism, and antibiotic therapy.

Results

Preliminary data revealed 7 (4.5%) treatment failures of 156 first-treated cultures. Trimethoprim/sulfamethoxazole was the most common definitive antibiotic used with 52 (33.3%). This was followed by 43 (27.6%) receiving third-generation cephalosporins, 24 (15.4%) gentamicin, and 21 (13.5%) ciprofloxacin. The most common organism was *Enterobacter* spp. followed by *Citrobacter* spp., *Serratia* spp., and *Morganella* spp. Treatment failures occurred in 3 patients who received trimethoprim/sulfamethoxazole, 3 meropenem, and 1 piperacillin/tazobactam. The failures were most commonly with *Enterobacter clocae complex.*

Conclusions

Preliminary data indicates that treatment failures in Amp-C UTIs occurs infrequently. Further results will be completely analyzed and described at time of presentation.

Elliott, Jacob

Evaluation of the implementation of a pharmacist-led transitions of care discharge process in high-risk Veteran patients

Elliott, Jacob - Author[1]; Layman, Sara - Co-Author[1]; Regen, Sloan - Co-Author[1]
[1]Memphis Veterans Affairs Medical Center

Background/Purpose

Transitions of care (TOC) at hospital discharge is not a seamless process. Adverse drug events can often lead to readmissions, though many are preventable. Incentivizing programs, such as the Hospital Readmissions Reduction Program created by the Centers for Medicare and Medicaid Services, have penalized institutions for excessive 30-day readmissions in high-risk disease states, including heart failure (HF) and chronic obstructive pulmonary disease (COPD). As such, TOC programs are a top priority for many health systems. The purpose of this study is to evaluate the impact of the pharmacist-run TOC program in mitigating 30-day readmissions in HF or COPD patients.

Methods

This study is a retrospective, observational cohort study of a pharmacist-led TOC program. Patients are included in the study if they were admitted to the Memphis Veterans Affairs Medical Center between September 1, 2017, and August 31, 2021, with the primary diagnosis of HF or COPD. Patients are excluded if they meet the following criteria: less than 18 years old, discharged from a non-medicine primary team, hospice patients, discharged to a skilled nursing facility or nursing home, or HF dependent on inotropic therapy. Additionally, duplicate admissions are excluded from each group. The control group includes patients discharged prior to the implementation of the TOC program. The cohort group includes patients seen by the TOC clinical pharmacy specialist at discharge. The primary outcome is to compare the composite of 30-day emergency department (ED) visits or readmissions for HF or COPD between groups. Secondary outcomes include the number 30-day ED visits, number of 30-day readmissions, time to first readmission, number and types of medication changes, and pharmacist interventions in the cohort group. Differences between the groups will be compared using the Chi-square and student's t-tests as appropriate.

Results

Results are pending final data collection and analysis.

Conclusions

Pending data analysis.

Entrekin, Tiffany

Design and Implementation of a Decentralized Pharmacy Practice Model at a Tertiary Teaching Hospital in Mississippi (Phase I)

Entrekin, Tiffany - Author[1]; Arnold, Jon - Co-Author[1]
[1]Memorial Health System / Memorial Hospital at Gulfport

Background/Purpose

The primary objective of this study is to transition our facility's hybrid centralized pharmacy practice model into a fully decentralized model whereby clinical pharmacists are assigned to distinct patient care areas. The clinical pharmacist will be responsible for all aspects of patient care on their assigned specialty unit including order verification, clinical consults and dosing tasks, and clinical surveillance monitoring. The goal is to allow our clinical pharmacists to be more interactive with nursing staff, physicians, and patients, as well as increase the number of clinical surveillance monitoring interventions performed on the patient's behalf. The secondary objective of this study is to measure the effectiveness and efficiency of our new practice model, as well as monitor for an increase in the number of pharmacist interventions performed.

Methods

Our study will be implemented in two phases. Phase I will consist of administrative structuring of the new practice model based on data collected from our electronic medical record system and clinical surveillance platform. Data will be collected on individual patient care units and will consist of daily patient census, number of orders verified, average order verification time, clinical consults and dosing tasks, and total number of clinical surveillance monitoring interventions performed. This data will be used to design a decentralized practice model and determine which patient care areas pharmacists will be placed in, as well as the specific daily duties each pharmacist will be expected to accomplish in their assigned specialty units. Following implementation of the decentralized model, the same data described above will be collected prospectively and compared to the data collected in the administrative phase to analyze any changes in our objectives.

Results

At the time of this abstract submission, our facility is currently in week four of implementation of our decentralized pharmacy practice model. Results will be analyzed and described once a minimum of six weeks post data has been obtained.

Conclusions

Pending

Estredge, Leanna

Evaluation of Bayesian Vancomycin Dosing Implementation at a Tertiary Care Community Hospital

Estredge, Leanna - Author[1]; Hopkins, Jamie - Co-Author[1]; Miller, Prestley - Co-Author[1]; Sutton, JoLeigh - Co-Author[1]
[1]Jackson-Madison County General Hospital

Background/Purpose

In March 2020, the American Society of Health System Pharmacists (ASHP) and the Infectious Disease Society of America (IDSA) released updated therapeutic monitoring guidelines for vancomycin use in serious methicillin-resistant Staphylococcus aureus infections. The guidelines recommend the use of an area under the curve/minimum inhibitory concentration (AUC/MIC)-guided dosing strategy versus a traditional, trough-only, dosing strategy for vancomycin. Because of the updated guideline recommendations, our health system sought to implement a pharmacist-managed AUC/MIC-based vancomycin dosing and monitoring strategy. The goal of this project was to evaluate the implementation of a Bayesian vancomycin dosing strategy compared to traditional dosing strategies used in the past.

Methods

Patients were retrospectively identified based on a random selection of patients who received vancomycin therapy in the months of January 2021 and January 2022 using the electronic medical record reporting system. Patients included were those at least 18 years of age who received vancomycin therapy in the respective months and had at least one level drawn during therapy. Patients were excluded if they were pregnant, had dose changes before a level was drawn, had no level drawn, received hemodialysis or pulse dosed regimens, or their regimens were not monitored by pharmacy. The primary endpoint of this study was the percentage of patients meeting the target AUC/MIC. Secondary endpoints include time to target AUC/MIC, rates of AKI, and trough levels.

Results

To be determined

Conclusions

To be determined

Felts, Brianna

Comparison of low-dose versus high-dose four-factor prothrombin complex concentrate (4F-PCC) for direct-acting oral anticoagulant reversal in a community hospital

Felts, Brianna - Author[1]
[1]Sumner Regional Medical Center

Background/Purpose

Multiple studies have compared low-dose (25 units/kg) versus high-dose (50 units/kg) 4F-PCC dosing for the reversal of direct-acting oral anticoagulants. Sumner Regional Medical Center recently implemented a protocol utilizing low-dose 4F-PCC dosing for patients taking direct-acting oral anticoagulants (DOACs) experiencing life-threatening bleeds. The purpose of this study was to investigate the differences in achievement of hemostasis between low-dose and high-dose 4F-PCC.

Methods

The electronic medical record system (Meditech) identified patients treated with high-dose 4F-PCC (July 1, 2020-June 30, 2021) and low-dose 4F-PCC (beginning July 1, 2021). The following data was collected: patient name, CT/MRI results, hemoglobin, type of bleed, and home anticoagulant. Inclusion criteria included any patient taking a DOAC who had a major bleed, Exclusion criteria includes patients < 18 years old or transferred to another facility. The primary outcome measured was achievement of effective hemostasis, defined as cessation of visible bleeding in < 4 hours, improvement or no further deterioration within 4 hours for musculoskeletal bleeding, ≤ 35% increase in hematoma volume for intracranial hemorrhage when compared to baseline at 24 hours, and ≤ 20% decrease in hemoglobin at 24 hours compared to baseline. Secondary outcomes are rate of thromboembolic events and inpatient mortality.

Results

As of March 10, 2021, research is still ongoing. In the high-dose group, 18 patients received 4F-PCC, of those 15 patients did not meet inclusion criteria. Effective hemostasis was achieved in 2 of 3 patients in the high-dose group. In the low-dose group, 15 patients received 4F-PCC, of those 10 patients did not meet inclusion criteria. 4F-PCC was effective in 3 of 5 patients in the low-dose group. Research on the secondary outcomes is ongoing.

Conclusions

Current evidence shows that low-dose (25 units/kg) 4F-PCC is a cost-effective alternative to high-dose (50 units/kg) and provides effective hemostasis without an increase in thromboembolic events. Although, my research has limited patients, the rates of hemostatic efficacy are comparable between the two groups. Limitations of this study include small sample size, absence of neurological services until Spring 2021, short follow-up time, and transfer of patients to other facilities.

Fitts, Coy

Evaluating the Four-Month Impact of a Pharmacy Resident Providing Annual Wellness Visit Services at a Rural Health Clinic

Fitts, Coy - Author[1]; Pate, Adam - Co-Author[1]
[1]North Mississippi Medical Center

Background/Purpose

Telehealth has become an imperative addition to providing impactful patient care, providing pharmacists an expanded opportunity to offer billable services in the clinic setting. Annual Wellness Visits (AWV) are a prominent way for pharmacists to provide billable services and improve patient outcomes through improving preventive screening adherence. This study explores the impact and reimbursement from the utilization of a pharmacy resident directed telehealth Medicare AWV services.

Methods

A retrospective chart review of patients from a single rural health clinic was conducted on patients that had an initial or subsequent Medicare AWV via telehealth with the pharmacy resident between March and May 2021. Patients were followed up during the subsequent 4 months after AWV completion. The primary outcomes of this study were evaluating the number of completed AWVs, the financial reimbursement obtained, and the work relative value units (wRVUs) accrued. The secondary outcomes included the number of recommendations given, including preventive screenings and vaccinations, the subsequent completion of those recommendations, and the number of medication related problems identified. Measures of central tendency were used to analyze the data collected.

Results

A total of 72 AWVs (47% of patients called) were completed during the study period. Of those completed AWVs, 62 were subsequent AWVs (86%) and 10 were initial AWVs (14%). AWVs completed by the pharmacy resident generated more than $9,000 in reimbursement for the clinic, which is equivalent to 117.3 wRVUs. Patients completed 30% of the 324 recommendations made by the pharmacy resident. The highest impact recommendations were colonoscopies (25 recommended; 52% completed), COVID-19 vaccinations (44 recommended; 43% completed), mammograms (14 recommended; 36% completed), and diabetic foot exams (4 recommended; 100% completed). In addition, 9 medication related problems were identified during the conduction of AWVs and were addressed.

Conclusions

Delivering AWVs via telehealth can provide an impactful utilization of pharmacists in rural health clinics both in reimbursements and improving patients' health.

Fly, James

A Survey and Focus Group Based Analysis of the Perception of Board Certification for Pediatric Pharmacists

Fly, James - Author[1]; Stultz, Jeremy - Co-Author[2]; Bobo, Kelly - Co-Author[1]
[1]Le Bonheur Children's Hospital, [2]University of Tennessee Health Science Center

Background/Purpose

Board certification through the Board of Pharmacy Specialties (BPS) is voluntary process that is not required for practice. Board certification is a rigorous process that upon completion demonstrates adequate knowledge base, clinical training, and practice experience as a pharmacist. Certification can be in general pharmacy practice or within a certain specialty. The purpose of this research project is to investigate the perception of board certification for pharmacists, primarily in the pediatric health care system. This project will seek to qualitatively and quantitatively define the perception of pediatric board certified pharmacist from staff and clinical pharmacists, managerial level pharmacists, and physicians.

Methods

This will be a qualitative and quantitative survey and focus group based study. This study will utilize a branched survey that will be distributed to staff and clinical pharmacists, hiring pharmacists, and physicians across the United States whose practice involves pediatrics.The focus group portion will be conducted across 4 cities across Tennessee representing a variety of different practice settings. This study will seek to identify perceptions of board certification from these three key groups. This study aims to answer if institutions require board certification, offer a difference in pay scale or a sign on bonus, offer reimbursement for testing, allow for different levels of clinical practice based off of certification status, and if providers are aware of and more receptive to board certified pharmacists. We will describe perceptions obtained from the survey and assess for differences in perception between different types of pediatric institutions (e.g., freestanding versus non-freestanding Children's Hospital.) Proportional comparisons will be done via the Chi-square test.

Results

Results will be described.

Conclusions

Conclusions will be presented upon presentation.

Followell, Emily

Effects of Upstream Oral P2Y12 Inhibitor Loading on Time to Revascularization and Bleeding Events in Acute Coronary Syndrome Patients Requiring Coronary Artery Bypass Grafts

Followell, Emily - Author[1,2]; Dunham, Sabrina - Co-Author[1]; Hodgman, Tudy - Co-Author[1]; Gerrald, Etha - Co-Author[1]; Reddy, Seenu - Co-Author[1]; Goodman, Andrew - Co-Author[1]
[1]TriStar Centennial Medical Center, [2]University of Tennessee Health Science Center

Background/Purpose

Dual antiplatelet therapy with aspirin and an oral P2Y12 inhibitor is a mainstay of treatment for acute coronary syndromes (ACS), specifically ST-elevation myocardial infarctions (STEMI) and non-ST-elevation myocardial infarctions (NSTEMI) for revascularization or medical management. Loading doses of oral P2Y12 inhibitors may be administered before (upstream) or at the time of (downstream) coronary angiography or percutaneous coronary intervention (PCI). Data to support upstream versus downstream P2Y12 inhibitor loading has conflicting cardiovascular outcomes in addition to bleeding concerns, bleeding being of particular concern for patietns who subesquently undergo coronary artery bypass grafting (CABG). We aimed to evaluate the effects of upstream P2Y12 inhibitor administgraiton on time to CABG and CABG-related bleeding events.

Methods

A retrospective chart review is being conducted at a tertiary community hospital in patients with a STEMI or NSTEMI who underwent emergent or urgent isolated CABG as defined by the Society of Thoracic Surgeons (STS). Data from January 2019 to September 2021 will be collected. Groups for comparison will be patients loaded upstream versus not loaded prior to coronary angiography. Exclusion criteria are oral P2Y12 inhibitor or anticoagulant use prior to the STEMI or NSTEMI, baseline anemia, or baseline thrombocytopenia. Secondary outcomes will examine hospital length of stay (LOS), intensive care (ICU) LOS, clinically relevant bleeding, fatal bleeding, and blood product administration after CABG. A paired t-test and chi-square analysis will be utilized for continuous and discrete data, respectively.

Results

Data collection is completed with anticipated analysis by March 2022.

Conclusions

Final study results will be described.

Giggy, Amanda

A comparison of risk of acute kidney injury in patients receiving vancomycin by trough dosing vs. two-level AUC dosing

Giggy, Amanda - Author[1]; Rogers, Maegan - Co-Author[1]; Fuchs, Christian - Co-Author[2]
[1]Regional One Health, [2]Univserity of Tennessee Regional One Physicians (UTROP)

Background/Purpose

Vancomycin is a broad-spectrum antibiotic commonly used as a component of empiric therapy for infections against methicillin-resistant Staphylococcus aureus (MRSA). The dosing of vancomycin is guided by monitoring of serum drug levels and pharmacokinetic calculations; recommended goal levels and monitoring strategies have changed over the years. Infectious Disease Society of America guidelines published in March of 2020 recommend targeting an area under the curve (AUC) to minimum inhibitor concentration (MIC) ratio of 400-600 using peak and trough serum vancomycin levels with first-order pharmacokinetic equations (two-level AUC dosing) or Bayesian software programs to calculate AUC. This dosing strategy is intended to reduce overall vancomycin exposure while still reaching levels necessary to eradicate infection.

One of the major side effects of vancomycin is acute kidney injury (AKI). The risk of AKI in patients receiving vancomycin is dose-related and increases with higher serum trough concentrations and with higher AUC values. AUC monitoring strategies may result in less AKI than serum trough monitoring dosing strategies. Previous studies at our institution have found that concomitant use of piperacillin-tazobactam increased the incidence of vancomycin-associated AKI compared to vancomycin alone or in combination with cefepime. This study aims to evaluate how the incidence of AKI has changed in patients receiving vancomycin based on two-level AUC dosing versus vancomycin based on trough dosing in medical/surgical patients at Regional One Health.

Methods

Retrospective electronic chart review evaluating patients admitted to the medical/surgical unit from March 1, 2020 and September 30, 2021 who received vancomycin for at least 48 hours.

Results

Results will be described.

Conclusions

Conclusion will be described.

Gillis, Carly

Topical Diclofenac and Risk of Adverse Events

Gillis, Carly - Author[1]; Brandl, Emily - Co-Author[1]; Guidry, Tommie Jo - Co-Author[1]; Stewart, Shannon - Co-Author[1]; May, Shari - Co-Author[1]
[1]Memphis VA Medical Center

Background/Purpose

Several guidelines recommend the use of non-steroidal anti-inflammatory drugs (NSAIDs) as treatment for osteoarthritic pain. However, the safety profile of oral NSAIDs often limit their use in certain populations such as in patients with renal disease, liver disease, cardiovascular (CV) disease, and concomitant use of anticoagulants. Because of these limitations, topical NSAIDs, such as diclofenac gel, have been considered as an alternative to decrease the risk of systemic adverse events. Despite the theoretical lack of systemic absorption with topical diclofenac, there is a black box warning for increased risk of gastrointestinal (GI) bleed and CV thrombotic events. The primary objective of this study is to assess whether topical NSAIDs can be safely prescribed to patients with contraindications to oral NSAIDs by comparing the composite incidence rates of CV thrombotic and GI bleeding events before and after topical diclofenac initiation.

Methods

The institutional review board approved this retrospective cohort observational study. Patients will serve as their own control group preceding their first prescription for diclofenac gel and will be included if they are 18 years or older and received at least two fills of diclofenac gel from the Memphis VA during a one-year time period. Patients will be excluded if they are pregnant/breastfeeding, receiving hospice/end of life care, have missing data, or are concomitantly receiving oral NSAIDs. Patients will then be categorized based on the following sub-groups: renal dysfunction, liver dysfunction, history of CV event, history of GI bleeding event and patients with concomitant use of an anticoagulant. The primary outcome measure will be the change in composite incidence rate of GI bleeding and CV events among patients for the three years before and three years after receiving diclofenac gel. Secondary outcomes will include the change in incidence rates of GI bleeding and CV events as individual parameters, major bleeding events, documented adverse drug reaction (ADR) to diclofenac gel, analysis of previously defined subgroups, change in liver function, and change in renal function.

Results

Pending

Conclusions

Pending

Givens, Gabrielle

Does continuing apixaban in patients with acute kidney injury increase risk of major bleeding?

Givens, Gabrielle - Author[1]; Marler, Jacob - Co-Author[1]; Neu, Daniel - Co-Author[1]
[1]Memphis VA Medical Center

Background/Purpose

Approximately 30% of apixaban is eliminated renally and renal dose adjustments may be indicated for treatment of non-valvular atrial fibrillation (NVAF), while no adjustment is recommended when treating venous thromboembolism (VTE). However, little is known regarding the pharmacokinetics and safety of apixaban to guide dosing in patients with AKI, for which apixaban is often continued at standard doses in practice. The purpose of this study is to determine the efficacy and safety of apixaban administration to patients with an AKI.

Methods

This is a retrospective cohort study of patients treated at the Memphis Veterans Affairs Medical Center from January 1st, 2011, to September 15th, 2021. Adult patients were included if they received at least 4 consecutive doses of therapeutic apixaban for treatment of VTE or NVAF. Patients were divided into two groups: those receiving apixaban with a diagnosis of an AKI (study group) and those receiving apixaban without a diagnosis of an AKI (control group). Data collected included baseline characteristics, indication for apixaban, baseline labs including but not limited to serum creatinine, hemoglobin and hematocrit, and components of the International Society on Thrombosis and Haemostasias major bleeding criteria. Exclusion criteria included requiring a blood transfusion for any documented reason other than bleeding secondary to apixaban administration, holding apixaban for a reason other than bleeding, missing baseline serum creatinine, and patients requiring hemodialysis. Rates of major bleeding will be compared between the two groups for the primary outcome.

Results

Preliminary results included 116 patients in the control group and 88 in the study group. The average age of included patients was 70 years old. Most patients were male (97%) and receiving apixaban for NVAF (82%). Thirty two percent of patients had baseline CKD, and the majority of those patients had stage 3 CKD. The primary outcome of major bleeding occurred in 3.4% vs 8.1% of patients in the control and study groups respectively. Data collection is ongoing.

Conclusions

Conclusions are pending final data collection and analysis.

Goings, Martina

Effectiveness of methicillin-resistant Staphylococcus aureus nasal swab utilization in community acquired pneumonia (CAP): a retrospective analysis

Goings, Martina - Author[1]
[1]Henry County Medical Center

Background/Purpose

Methicillin-resistant Staphylococcus aureus (MRSA) pneumonia is associated with substantial morbidity and mortality, premature death, and complications such as ventilator use and increased length of hospitalization. The use of MRSA nasal screening to rule out MRSA in lower respiratory tract infections has led to meaningful reductions in duration of Vancomycin and Linezolid therapy. In select patients, a negative MRSA nasal screen can help prevent initiation or guide de-escalation of empiric MRSA coverage. A MRSA nasal swab has a 98% negative predictive value for MRSA pneumonia and according to the Infectious Disease Society of America (IDSA) community-acquired pneumonia guidelines de-escalation is warranted when the MRSA screen is negative. The objective of this study is to determine whether a pharmacist driven implementation of a MRSA nasal swab PCR assay protocol would decrease the utilization of empiric MRSA coverage.

Methods

Methods and Materials: Data was gathered utilizing inpatient drug utilization reports of all MRSA pneumonia patients from January 2021 through December 2021. All patients receiving anti-MRSA empiric coverage were reviewed based on appropriateness of MRSA screen, duration of therapy, and whether a pharmacist recommendation was accepted or declined. All patients were screened based on the following criteria:

Inclusion Criteria	Exclusion Criteria
Diagnosis of CAP	Hospitalization > 48 hours after admission
Admitted for CAP and empirically treated for MRSA with Vancomycin or Linezolid	Vancomycin or Linezolid usage for > 48 hours MRSA empiric coverage for other infections

-Primary Endpoint: number of patients on empiric MRSA coverage for CAP that received antibiotic de-escalation based on a negative MRSA nasal swab.
-Secondary endpoints: Average turnaround time for MRSA nasal screen, average time from negative results to de-escalation of therapy, prescriber de-escalation patterns

Results

Pending

Conclusions

Results will be reported upon completion of data collection.

Graffeo, Allison

Incidence of Discharge Medication Errors in a Pediatric Emergency Department

Graffeo, Allison - Author[1]; Lepard, Lindsey - Co-Author[2]; Gomez, Fernando - Co-Author[2]
[1]University of Mississippi Medial Center, [2]University of Mississippi Medical Center

Background/Purpose

Medication errors in pediatric patients are three times more likely than in adult patients. With pediatric patients being a high-risk population, collaboration of an integrated healthcare team is essential. Several trials have been conducted to assess the impact of pharmacy services in adult emergency departments (ED); however, there is a lack of data surrounding pediatric EDs. From published adult literature, the addition of clinical pharmacy staff in the ED can aid to prevent medication errors, relieve nurses and staff, and increase the quality of patient care, education, and outcomes. Currently, the pediatric ED at the University of Mississippi Medical Center does not have specialized ED pharmacists. Our study sought to characterize the discharge medications from our ED and determine the incidence of errors. The results of this study may further assist to educate clinicians and prevent future medication errors.

Methods

This single-center, retrospective, observational study evaluated pediatric patients presenting to the ED at Children's of Mississippi between July 1, 2019 – July 1, 2021. All patients who presented to the pediatric ED were included. Patients who were admitted or with no discharge medications were excluded. The primary outcome assessed the incidence of medication errors at discharge. Secondary outcomes included types of error, characteristics of medications, and variables associated with medication prescribing errors.

Results

A total of 125 patients were included in the analysis, with 435 patients excluded due to absence of discharge medications. Baseline characteristics included median age of 5.5 years and weight of 27.6 kilograms. The majority of patients were male (51.2%) and African American (67.2%) with an average total ED stay of 2.5 hours. There was a total of 3 medication errors including clindamycin, rizatriptan, and diazepam. A total of 149 medications were prescribed at discharge with antimicrobials making up 47% of the prescribed medications followed by topicals (14.1%), antiemetics (8.7%) and ophthalmic/otic (7.4%).

Conclusions

Although there were very few medication errors on discharge, pharmacists can assist in recommending stewardship interventions, preventing medication administration errors, providing education, and improving overall outcomes. The results of our study have given us important information upon which to focus our education efforts.

Gray, Madison

Incidence of Renal Replacement Therapy in Critically Ill Patients Receiving Combination Antibiotics

Gray, Madison - Author[1]; Wiley, Tessa - Co-Author[1]; Artman, Katherine - Co-Author[1]; Dukes, Alan - Co-Author[1]
[1]University of Mississippi Medical Center

Background/Purpose

Broad spectrum antibiotic therapy in hospitalized patients with unknown source of infection frequently includesvancomycin with either piperacillin-tazobactam or cefepime. Recent evidence demonstrates increased rates of acute kidney injury (AKI) in patients receiving both vancomycin and piperacillin-tazobactam (VPT). However, rates of renal replacement therapy (RRT) have not routinely been reported, and critically ill patients have been underrepresented despite their increased risk of developing an AKI. The purpose of this study was to compare the incidence of RRT between VPT and vancomycin plus cefepime (VC) in surgical intensive care unit (SICU) patients.

Methods

In this single-center, retrospective cohort study, patients who received VPT or VC during SICU admission between January 1, 2017 and October 24, 2021 were identified for inclusion through the electronic health record. The primary outcome compared incidence of new renal replacement therapy between patients who received VPT versus VC. Secondary outcomes included time to renal replacement therapy, duration of renal replacement therapy, incidence of new onset AKI, SICU length of stay (LOS), and in-hospital mortality.

Results

A total of 100 patients were included, 50 in the VPT group and 50 in the VC group. Fewer patients in the VPT group had a new RRT requirement (VPT: 4% vs. VC: 10%; p=0.436); however, the VPT group had a higher rate of AKI (VPT: 32% vs. VC: 2%; p=0.26). Patients in the VPT group required new RRT sooner (VPT: 12 hours vs. VC: 336 hours; p=0.057); however, duration of RRT was similar between groups (VPT: 9 days vs. VC: 9 days; p=0.857). Although patients in the VPT group had a shorter SICU LOS (VPT: 15 days vs. VC: 23 days; p=0.003), in-hospital mortality was not different between the two groups (VPT: 18% vs. VC: 14%; p=0.585).

Conclusions

Our results showed that although VPT was associated with higher rates of AKI, patients in the VPT group did not experience higher rates of new RRT. These results suggest that when comparing VPT and VC use in SICU patients, serum creatinine and rates of AKI may not be the most accurate predictor of renal function.

Green, Cole

Patient Satisfaction and Related Outcomes in Methadone Treatment for Opioid Use Disorder in Tennessee

Green, Cole - Co-Author[1,2]
[1]TN Dept of Mental Health and Substance Abuse, [2]UTHSC

Background/Purpose

A paradigm shift has taken place in recent years regarding how positive metrics for methadone treatment for opioid use disorder are studied. Rather than surveying clinicians, a growing body of evidence has linked patient perceptions, specifically patient satisfaction, closely with treatment duration, patient adherence, patient retention, and other positive outcomes in methadone treatment. Additionally, challenges related to the COVID-19 pandemic have illuminated the need for revisions to state and federal regulations surrounding methadone treatment.

Methods

We surveyed patients from a number of methadone clinics in the state of Tennessee with questions adapted from SASMAT-METHERS and VSSS-MT, two validated tools for assessing patient satisfaction in opioid use disorder. Surveys were accessible via a QR code and filled out online while data was collected and stored in an encrypted, HIPAA-compliant platform.

Results

Results will be described.

Conclusions

The results from this study further examine and clarify the nature between patient satisfaction and methadone treatment for opioid use disorder. This state-specific data can be used to inform opioid authorities and legislators to guide policy, regulation, and practice in a rapidly changing landscape.

Grigsby, Jewlyus

Awareness of Risk of Hepatitis A in an Underserved Population

Grigsby, Jewlyus - Author[1]
[1]University of Mississippi School of Pharmacy

Background/Purpose

The objective of this study is to analyze the awareness of risk of Hepatitis A infection in an underserved population in Jackson Mississippi. Hepatitis A is a contagious liver infection caused by the Hepatitis A virus, found in the blood and stool of infected patients. There is no cure but vaccination can prevent infection. The Mississippi Department of Health and Jackson Free Clinic have collaborated to vaccinate at-risk patients. Vaccination rates have been low, but a question remains if patients are aware of their risk for Hepatitis A infection.

Methods

Participants will be recruited and asked to take the assessment while waiting for their prescription at the Jackson Free Clinic Pharmacy. After the consent process, patients will take the assessment which consists of fourteen questions regarding the risk factors for Hepatitis A. It also asks about prior knowledge of Hepatitis A, receiving the Hepatitis A vaccination, and demographic information. Awareness will be determined by a score of 75% or above on the assessment. After calculating the participants score, all patients receive counseling on risk factors for Hepatitis A infection and are offered the vaccination The primary outcome is awareness of Hepatitis A determined by the assessment score. The secondary outcomes are prior awareness of Hepatitis A and vaccination after taking the survey. The survey score, answers to the secondary questions, and patient demographic data will be analyzed using descriptive statistical analysis.

Results

To date, 13 patients have taken the assessment. The average score is 50% and the median score is 57%. 18% of patients were aware of their risk of Hepatitis A. 42% of patients stated they were aware of Hepatitis A prior to taking the assessment. No patients have received the Hepatitis A vaccine.

Conclusions

Based on the results, patients are not as aware of their risk of Hepatitis A infection, but some are aware of the virus. Future research could help determine why there is hesitancy surrounding vaccinations like Hepatitis A.

Gruca, Justin

Evaluation of Opioid Detoxification and Withdrawal Treatment Strategies

Gruca, Justin - Author[1]
[1]HCA Healthcare, Inc./University of Tennessee Health Science Center

Background/Purpose

Opioid use disorder (OUD) affects over 2 million individuals in the United States annually. The Diagnostic and Statistics Manual, 5th edition (DSM-5) outlines the diagnostic criteria for OUD. Patients presenting in the acute setting are often seeking continuation of OUD maintenance therapy or opioid detoxification. Two primary strategies for detoxification include abstinence-based treatment or medication-assisted treatment (MAT). Two commonly utilized medications for MAT include buprenorphine-containing products and methadone. The purpose of this study is to evaluate utilization trends of buprenorphine or methadone for patients with OUD discharged from an inpatient facility, behavioral healthcare facility, or an emergency department (ED).

Methods

This study was a retrospective chart review conducted between the dates of January 1, 2019 and December 31, 2019. Orders for patients were included if they were between ages 18 and 89 years, and if the administration was by mouth/sublingual. Data used for analysis was extracted from a centralized data warehouse, as well as a clinical decision support tool. The primary objective was to identify different trends in buprenorphine and methadone usage. Secondary objectives include identification of: utilization of division/corporate order sets, differences in ED versus inpatient utilization, trends with discharge planning. This study has received The University of Tennessee Health Sciences Center IRB approval.

Results

Results are in progress. Will be described by the time the conference commences.

Conclusions

Conclusions are in progress. Will be described by the time the conference commences.

Gundrum, Paige

Evaluation of A1c reduction with a pharmacy resident-led diabetes management service at a FQHC primary care clinic

Gundrum, Paige - Author[1,2]; Gross, Ben - Co-Author[1]

[1]Lipscomb University, College of Pharmacy, [2]Maury Regional Medical Group

Background/Purpose

Pharmacists can bridge gaps in care by assisting primary care providers (PCPs) with chronic disease state management, especially in rural settings where PCP availability is limited. Training on medication education and insurance coverage, uniquely positions pharmacists to address significant barriers to care and concerns regarding chronic disease state management. The purpose of this study is to assess the impact of a pharmacy resident-led diabetes management service on improving A1c.

Methods

The institutional review board approved this retrospective chart review. Patients were included if they had a diagnosis of diabetes and were seen by a PGY-2 ambulatory care pharmacy resident at least once. Patients were excluded if there was no additional A1c documentation after the first pharmacist appointment. Services were mainly provided to patients by telehealth due to the COVID-19 pandemic, but some appointments were conducted in the clinic. All recommended interventions were presented to and approved by the patient's PCP, either verbally or through the electronic medical record (EMR) prior to implementation. The primary outcome assessed was absolute reduction in A1c from the start of pharmacist intervention until March 2022, or the end of pharmacist follow up if earlier. Secondary outcomes included percentage of patients achieving specific A1c targets (<7%, <8%, and <9%), number of follow-ups with PCP compared to pharmacist, and utilization of statin therapy.

Results

Initial data shows 57 eligible patients for data collection. Preliminary results are not available, but results will be described.

Conclusions

Results not yet available, but will be described.

Gust, William

Long-Term Outcomes with Elexacaftor/Tezacaftor/Ivacaftor in Patients with Cystic Fibrosis

Gust, William - Author[1]; Fleming, Joshua - Co-Author[1]; Malinowski, Scott - Co-Author[1]
[1]University of Mississippi School of Pharmacy

Background/Purpose

Cystic Fibrosis Transmembrane Regulator (CFTR) modulators have revolutionized cystic fibrosis (CF) treatment by targeting the root cause of the disease. The newest modulator elexacaftor/tezacaftor/ivacaftor has expanded modulator eligibility to those with one F508del mutation or another responsive mutation and improved outcomes versus previous modulators. Thus, elexacaftor/tezacaftor/ivacaftor has become the standard of care in CF. However, most trials have only evaluated the outcomes of elexacaftor/tezacaftor/ivacaftor treatment for a duration of 24 weeks. Given the drug's widespread adoption, it is necessary to characterize its long-term safety and efficacy profile. This trial's purpose is to investigate the long-term safety and efficacy outcomes of elexacaftor/tezacaftor/ivacaftor treatment in pediatric and adult patients.

Methods

This was a retrospective chart review of all CF patients at this institution who had taken elexacaftor/tezacaftor/ivacaftor for more than 24 weeks. Primary efficacy outcomes included mean changes in Forced Expiratory Volume in One Second as a percentage of predicted normal (FEV1%), Body Mass Index (BMI), and weight from baseline at initiation of therapy to 24, 30, 36, 42, and 48 weeks of therapy. Primary safety outcomes included liver damage—defined as AST $\geq$ 160 U/L and/or ALT $\geq$165 U/L—, rash, neurological changes, and any other adverse event attributed to elexacaftor/tezacaftor/ivacaftor.

Descriptive statistics were used for baseline characteristics. Mean changes in continuous variables (FEV1, BMI, weight) were assessed using a paired t-test. Mean changes in incidence of discrete variables (number of LFT elevations, rash, neurological changes, and adverse events) were compared using odds ratios. Serial assessments between baseline and 24, 30, 36, 42, and 48 weeks were compared using one-way repeated measure ANOVA.

Results

Results are pending final data collection and will be presented at the conference.

Conclusions

Conclusions will be presented at the conference.

Presentation Objective: To characterize the long-term safety and efficacy outcomes associated with taking elexacaftor/tezacaftor/ivacaftor for longer than 24 weeks in adult and pediatric CF patients

Haines, Lamare

Association of Social Determinants of Health with Utilization of Pharmacy Home Delivery Services

Haines, Lamare - Author[1]
[1]University of Mississippi School of Pharmacy

Background/Purpose

The primary objective of this study is to identify social determinants of health that influence patients' utilization of pharmacy home delivery services and other available pharmacy services, such as immunizations, diabetes educations classes, and medication therapy management. The secondary objective of this study is to assess patient population needs using the planning models PRECEDE-PROCEED and PROGRESS-plus to identify potential pharmacy services to be implemented that would address unmet needs. Health needs assessment tools can be utilized to identify patient care gaps providing insight to pharmacists regarding ways they may further meet these needs and provide more personalized patient care. To date, few studies have utilized a needs assessment in relation to pharmacy services, particularly that target identifying healthcare barriers and unmet needs as they relate to social determinant of health.

Methods

This cross-sectional study evaluates patients that utilize home delivery services at two independent pharmacies in North Mississippi. All patients 18 years of age and older that utilize pharmacy home delivery services will be eligible to participate in a survey. Initially, survey recruitment flyers were attached to prescription bags marked for delivery. A link to the survey and a QR code were present on the flyer to help patients navigate to the survey. After 1.5 months of data collection, there were minimal survey responses so cold calls were made to eligible patients. Responses to the survey were coded to aid in data analysis. Patients were also asked if they would be willing to participate in an additional interview. Those that marked delivery reasons other than convenience were randomized and selected for a follow up interview to collect more information. Those interviews are still underway.

Results

Final results are still in process. As of March 14, 2022, there were 33 survey responses out of 168 survey invitations sent, giving a 19.6% response rate. Baseline demographics for participants are as follows: 42% white, 30% black, 27% unknown race; 30% male, 39% female; 36% primarily marked using delivery for convenience, 64% marked either a primary or secondary reason for using delivery as something other than convenience.

Conclusions

Final conclusion is still pending.

Hall, Jake

Impact of Transitions of Care Pharmacists at a Community Hospital

Hall, Jake - Author[1]
[1]HCA Healthcare

Background/Purpose

Adverse drug reactions (ADR) and poor medication reconciliation upon admission, transfer, and discharge incur a great burden on hospital systems. One study in the US estimated that there are 350,000 hospitalizations each year due to ADR. A systemic review found that two thirds of patients had a discrepancy in the medications they take at home versus what was ordered on admission to the hospital. Medication reconciliation is the process of gathering an accurate list of the patient's current medications. Pharmacist are uniquely qualified to provide the best possible medication history.

Providing discharge counseling for high risk patients also has the possibility of reducing cost for the hospital system. One event-simulation model using peer reviewed literature estimated that pharmacist led medication reconciliation at discharge could provide a net benefit of $206 per patient. Despite this, many facilities do not have pharmacist regularly completing medication reconciliation and providing transitions of care services. Patients with certain high-risk readmission diseases could be targeted to help improve outcomes. One pilot evaluation of a pharmacist-led transitions of care program for heart failure patients showed that medication discrepancies were detected in 53% of patients. A transitions of care program can improve collaboration between different disciplines and help ensure optimal care for patients.

Our objective is to determine the benefit of having two full time transitions of care pharmacist at a community hospital and what effects it will have on patient care.

Methods

ICD10 codes will be used to determine 30-day re-admission rates for patients.
A clinical surveillance platform will be used to monitor interventions made by transitions of care pharmacist.
Press Ganey surveys will be used to determine patient satisfaction after implementing transitions of care pharmacist.

Results

No results are available yet. Preliminary data will be available for the conference and will be discussed in my presentation.

Conclusions

A conclusion will be drafted once preliminary results are available. This will be discussed in my presentatin.

Hammad, Samah

Renal Outcomes of African American Kidney Transplant Recipients After Conversion to Belatacept-Based Immunosuppression

Hammad, Samah - Author[1]; Anders, Stephanie - Co-Author[1]; Hutchinson, Lisa - Co-Author[1]; Freeman, Andrew - Co-Author[1]; Kaszubski, Ushma - Co-Author[1]; Janusek, Marissa - Co-Author[1]
[1]Ochsner Health

Background/Purpose

Calcineurin inhibitors (CNIs) have a well-established role in immunosuppression after renal transplant, as their use has dramatically reduced acute cellular rejection and increased graft survival. However, long term use of CNIs can cause unfavorable complications including nephrotoxicity. Belatacept has demonstrated superior renal function compared to a CNI-based regimen when used de novo, at the cost of increased risk of rejection. Conversion to belatacept after CNI-based immunosuppression has also demonstrated improvement in renal function, with higher rejection risk observed post-conversion. Cohorts in these studies were primarily low risk, Caucasian recipients. As a result, there is limited data regarding benefit of conversion to belatacept-based immunosuppression in high-risk patients, including African American (AA) transplant recipients. Results of this study may influence decisions regarding immunosuppression management of AA recipients.

Methods

This retrospective chart review examines patients > 18 years old who received a kidney transplant and were converted to belatacept between January 1, 2015 and June 1, 2021. Recipients of a dual organ transplant and those who received less than five doses of belatacept were excluded.

The primary outcome of this study is to compare change in renal function (eGFR measured by Modification of Diet in Renal Disease) between AA and non-AA recipients at six months post-conversion. Secondary outcomes include change in eGFR at 3- & 12-months post-conversion, patient survival, death-censored graft survival, cytomegalovirus (CMV) infection, biopsy proven acute rejection (BPAR), post-transplant lymphoproliferative disorder (PTLD), and discontinuation of belatacept prior to 12 months post-conversion.

Results

Preliminary results show that there were 38 patients included in this study, 18 in the AA cohort and 20 in the non-AA group. Induction therapy with alemtuzumab was similar amongst both groups, 72.2 % and 70% respectively. Average eGFR at conversion was 38.6 mL/min/1.73m2 in the AA group and 50.2 mL/min/1.73m2 in the non-AA group. The change in average eGFR from conversion to 3-months post-conversion was +11.9 and +0.9 mL/min/1.73m2. After conversion to belatacept, there were no cases of rejection in the AA group and one case in the non-AA group, which resulted in discontinuation of belatacept.

Further analysis of primary and secondary outcomes pending.

Conclusions

Conclusion upon availability of results.

Hammons, Caleb

Evaluation of free-text responses to medication indication screens utilizing natural language processing

Hammons, Caleb - Author[1]; Cooper, William - Co-Author[2]; Saltsman, Connie - Co-Author[2]; Rahm, Risa - Co-Author[2]; Loput, Charity - Co-Author[2]; Casey, Jennifer - Co-Author[2]; Gregg, William - Co-Author[2]
[1]HCA Healthcare / University of Tennessee College of Pharmacy, [2]HCA Healthcare

Background/Purpose

Clinical decision support (CDS) is effective in aiding providers through clinical decision making. CDS poorly designed or over utilized leads to alert fatigue, contributes to provider burn out, and ultimately proves ineffective. In recent years, natural language processing (NLP) has gained traction in contributing to improvement of patient care. Few studies to date have defined methods for continuous improvement of CDS utilizing NLP for free-text indication screens. Retrospective evaluation of medication indication screens with a free-text category of "other" utilizing NLP is the primary objective. This may identify opportunities for adjustments to current indications available for selection during order entry.

Methods

This study was classified as exempt by an independent institutional review board. Indications are collected from such medications and medication classes as albumin, antifungals, proton pump inhibitors, and histamine type-2 receptor antagonists. Orders between September 2020 and September 2021 for patients 18 years of age and older are included in this retrospective review.

Results

Results will be described

Conclusions

In progress

Harrington, Hayley

Rejection Rates Among Obese Kidney Transplant Patients Receiving Rabbit Anti-Thymocyte Globulin Dosed Using Ideal Body Weight

Harrington, Hayley - Author[1]; Derringer, Darby - Co-Author[1]; White, Amy - Co-Author[1]; Wells, Allison - Co-Author[1]
[1]UAMS Medical Center | Little Rock, Arkansas

Background/Purpose

Obesity among patients awaiting kidney transplantation is becoming increasingly prevalent. It is important to ensure the same quality of immunosuppression and graft-survival in this patient population. Anti-thymocyte globulin (ATG) is utilized to reduce acute rejection rates at the time of kidney transplantation by depleting lymphocytes. ATG is known to be costly and is associated with risk of infection and malignancy. Optimal dosing to limit cost and toxicity and maximize immunosuppression is not well defined. One method is to dose ATG based on ideal body weight (IBW), meaning obese patients receive a lower dose of ATG per actual body weight than nonobese patients. The aim of this study was to compare the rejection rates in obese and non-obese kidney transplant recipients receiving ATG dosed based on IBW.

Methods

This study was a single-center, retrospective chart review of adult patients who received ATG as induction therapy for a kidney transplant between September 2016 and December 2019. Patients were excluded if they received a multiorgan transplant or if they received a cumulative ATG dose <5 mg/kg based on IBW. The primary outcome was a composite of the incidence of biopsy-proven rejection and presumed rejection at 1, 3, 6, and 12 months post-transplant in patients with a body mass index (BMI) < 30 compared to those with a BMI ≥ 30.

Results

There was not a statistically significant difference in rejection rates between the two groups for the primary outcome. Rejection was present in 11 of 42 patients with a BMI <30 and 9 of 44 patients with a BMI ≥ 30 (p-value = 0.529). Secondary outcomes will be presented as they are gathered and assessed.

Conclusions

The results of this study will be used to evaluate the safety and efficacy of ATG dosing based on IBW in obese kidney transplant recipients.

Harris, April

Outcomes associated with analgosedation versus non-analgosedation techniques in critically-ill, ventilated, COVID-19 patients

Harris, April - Author[1]; Underwood, Elizabeth - Co-Author[1]; Smith, Forrest - Co-Author[2]
[1]Unity Health - White County Medical Center, [2]Harding University College of Pharmacy

Background/Purpose

Analgosedation describes administering analgesia medications prior to sedatives. The Society of Critical Care Medicine's, "Clinical Practice Guidelines for the Prevention and Management of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption in Adult Patients in the ICU," currently recommend using analgosedation in critically ill, ventilated patients. However, data lacks to identify specific patient populations showing significant benefit. This study compared outcomes between COVID-19 patients on mechanical ventilation who received analgosedation versus non-analgosedation based regimens.

Methods

This single-center retrospective electronic medical record review identified patients ≥ 18 years old, admitted to Unity Health with documented COVID-19 requiring mechanical ventilation. The primary outcome was the proportion of patients who received analgosedation defined as analgesia-first or analgesia-alone. Secondary outcomes assessed the correlation between the primary outcome and patient-specific demographics, comorbidities, hospital length of stay, and discharge destination. Exclusion criteria included current pregnancy, past pregnancy within 6-mo, extubation <24-h after starting ventilation, death within 24-h of intubation, chronic ventilation, or patients transferred from another hospital already receiving mechanical ventilation. A Chi-Square goodness of fit analysis was utilized for nominal data. Interval data was analyzed using a t-test for independent measures. Significance occurred when p <0.05.

Results

Seven (26%) participants were included in the analgosedation group and twenty (74%) were included the non-analgosedation group. There was no association between groups in regards to demographics or comorbidities. There was no difference between groups in days of hospital stay (μ=12 vs μ=14; p=0.492), days of mechanical ventilation (μ=8 vs μ=9; p=0.604), or sedation level based on the Richmond Agitation-Sedation Scale (μ=-2.6 vs μ=-3.1; p=0.231), for analgosedation versus non-analgosedation respectively. The use of analgosedation was associated with a decreased need for paralytic usage (n=4 vs n=17; p<0.001), respectively. Analgosedation showed an association of decreased supplemental morphine usage (n=3 vs n=13; p<0.001), respectively. In regard to discharge destination, patients receiving anaglosedation were associated with decreased mortality rate (n=3 vs n=13; p<0.001).

Conclusions

The results indicate analgosedation patients with COVID-19 had significantly better parameters including paralytic agent usage, supplemental morphine, and ventilator respiratory settings. Data showed non-analgosedation utilized a significantly higher rate than analgosedation, despite guideline recommendations for use of analgosedation-based regimens.

Harris, Tinia

Efficacy of tamsulosin for successful urinary catheter removal in male trauma patients

Harris, Tinia - Author[1]; Savage, R. Wesley - Co-Author[1]; Hill, David - Co-Author[1]
[1]Regional One Health

Background/Purpose

Acute urinary retention is considered a medical emergency and is most commonly treated by inserting a catheter to assist with voiding. Alpha-1 antagonists such as tamsulosin, are frequently used to reduce lower urinary tract symptoms in patients with benign prostatic hyperplasia (BPH). These medications help relieve symptoms by relaxing smooth muscle in the prostate, prostatic urethra, and bladder neck. Although there is literature to support the use of tamsulosin in acute urinary retention in men with BPH, there is limited data on its role in improving trial without catheter (TWOC) in critically ill patients. The purpose of this study is to retrospectively compare outcomes of urinary catheter removal in critically ill male trauma patients with acute urinary retention that did and did not receive tamsulosin.

Methods

This is a single-center retrospective study comprised of 150 critically ill male trauma patients. A hospital database was utilized to screen catheterized adult male trauma patients admitted to Regional One Health from April 2019 through January 2022. Patients were enrolled in reverse chronological order after reviewing electronic health records for inclusion and exclusion criteria. The experimental cohort consists of 75 patients who failed their original TWOC resulting in foley replacement and initiation of tamsulosin. The control group also failed their original TWOC resulting in foley replacement, but they did not receive tamsulosin.

Results

Results will be described.

Conclusions

Conclusion pending results.

Hawkins, Yhazmyne

Effects of pharmacist-led education on outpatient antibiotic prescribing in the primary care setting

Hawkins, Yhazmyne - Author[1]; Armstrong, Drew - Co-Author[1]
[1]Regional One Health

Background/Purpose

Antibiotic stewardship is defined by the United States Center for Disease Control (CDC) as the effort to measure antibiotic prescribing by clinicians and use by patients so that antibiotics are only prescribed and used when needed. In 2019, the Joint Commission published guidance on antimicrobial stewardship in the ambulatory care setting to combat inappropriate antibiotic use and prevent antibiotic resistance. The root of inappropriate prescribing in the outpatient setting is the influence of many different obstacles for prescribers, including insistent patients, use of antibiotics for a viral diagnosis, and lack of education on appropriate dose, indication and duration of antibiotics among prescribers. Pharmacists being the medication experts and an essential member of many antimicrobial stewardship programs across the United States, gives an ample opportunity to intervene in the appropriate dosing and duration of antibiotics in the outpatient setting.

Methods

This study assessed the influence in antibiotic prescribing rates by pharmacist-led education at an outpatient primary care practice. Prescribers at an outpatient primary care practice site, including nurse practitioners, physicians, and clinical pharmacists, were educated on appropriate indication, dose, and duration of antibiotics for common upper respiratory tract infections as well as common obstacles to appropriate prescribing. After this education, prescribers were given a badge buddy summarizing all of the presented information. Data was then collected during the pre-intervention period of September 2020 through November 2020 as well as the post-intervention period of September 2021 to November 2021 to assess antibiotic prescribing rates. Any patient with a diagnosis for upper respiratory tract infection was included for analysis.

Results

Data analysis is ongoing.

Conclusions

Conclusions to be described.

Hayes, Taylor

A Retrospective Review to Assess the Effectiveness of Sliding Scale Insulin Regimens in Patients Admitted Within a Healthcare Institution

Hayes, Taylor - Author[1]; Welch, Ron - Co-Author[1]; Dickey, Sharon - Co-Author[1]
[1]Baptist Memorial Hospital - GTR

Background/Purpose

Hyperglycemia, defined as blood glucose >180 mg/dL, has been shown to correlate with increased length of stay, increased cost of care, and higher readmission rates. Currently, the Baptist Healthcare System has 3 sliding scales utilizing Humalog Insulin for management of hyperglycemia: high, moderate, and low dose scale. Physicians adjust medications for diabetes management based on the blood glucose values and the insulin doses per the sliding scale. We have observed that several patients at our facility have had glucose readings above 180 mg/dL on several point of care tests. The purpose of this study is to assess the effectiveness of sliding scale insulin regimens in patients admitted to the Baptist Memorial Healthcare System.

Methods

This study is a healthcare system-wide retrospective electronic health record review that includes all adult patients placed on a sliding scale insulin regimen when admitted to the inpatient setting throughout the Baptist Memorial Hospital Healthcare System from July 1, 2020 to June 30, 2021. Patients are excluded if they were admitted to the Intensive Care Unit or Transitional Care Unit, under the age of 18, had a hospital diagnosis of diabetic ketoacidosis, receiving total parenteral nutrition, were an inmate, or if they were pregnant. The primary outcome is to assess the efficacy of sliding scale insulin regimens in the management of hyperglycemia in patients who had 4 or more consecutive blood glucose results of 180 mg/dL or greater. Data collection included patient demographics, admission diagnosis, documentation of infection, COVID status, blood glucose levels, hemoglobin A1c, sliding scale prescribed, the average 24-hour correctional insulin units administered, hypoglycemic events, prescribed diet, steroid administration, basal insulin ordered, and initiation of home diabetes regimen. Data collected will be analyzed for nominal and continuous data.

Results

This study was to be a System Wide review as approved by the Institutional Review Board. Due to the large data pool, the Informational Technology Department requested a limitation to the Baptist Memorial Hospital Golden Triangle facility only. There were 276 patients screened with 93 meeting inclusion criteria. Data collection and results are in process.

Conclusions

In process

Hayley, Ashley

Evaluating the use of bacteriostatic diluents within a multi-hospital healthcare system

Hayley, Ashley - Author[1]; Granger, Nancy - Co-Author[2]; Register, Wade - Co-Author[1]
[1]Fort Sanders Regional Medical Center, Knoxville, TN, [2]Cardinal Health, Knoxville, TN

Background/Purpose

Bacteriostatic diluents are not recommended for use in neonates or certain routes of administration due to toxicities associated with benzyl alcohol. In neonates, benzyl alcohol is associated with Gasping Syndrome and is not recommended for neuraxial administration due to neurotoxic risks. The purpose of this study is to evaluate how bacteriostatic diluents are used within a healthcare system. The secondary purpose is to determine the correct diluent for medications that require reconstitution or dilution. From this research, a standardized chart will be developed and disseminated to healthcare workers who reconstitute or dilute medications.

Methods

Two methods were used to evaluate how bacteriostatic diluents are used within the healthcare system. Nurses and pharmacists were surveyed about the frequency of use, appropriate application, and available resources for bacteriostatic diluent use. Within the facility, a secondary method of observation rounds was used to determine locations, accessibility, and quantities of bacteriostatic diluents throughout the hospital.
To create a standardized resource of appropriate diluents, a list was generated identifying medications that require reconstitution or dilution. The package insert for each of these medications was used to delineate the suitable diluent(s). The standardized resource will be distributed to all relevant disciplines. This resource will be utilized as the foundation for education on proper use of bacteriostatic diluents within the healthcare system.

Results

A seven-question survey was distributed to the hospitals within the healthcare system. The survey received 56 responses over a 3-week period from pharmacy and nursing staff at three different hospitals. The vast majority of those surveyed reported using bacteriostatic diluents 0-1 times per month. The majority of pharmacy and nursing staff surveyed within this multi-hospital healthcare system were unaware of the exact parameters for the use of bacteriostatic diluents.

Conclusions

The majority of survey participants did not know the contraindications for use of bacteriostatic diluents but also did not report using bacteriostatic diluents often, if at all. The resource developed during this research project will be distributed as described and will form the basis of education on the proper diluent for each reconstituted drug.

Heath, Rebecca

Barriers, Facilitators, and Impact of Clinical Pharmacy Services within Ryan White Funded HIV/AIDS Clinics

Heath, Rebecca - Author[1]; Fleming, Joshua - Author[1]; Malinowski, Scott - Author[1]; Mills, Alexander - Author[1]
[1]University of Mississippi School of Pharmacy

Background/Purpose

Per the CDC, 51% of people living with HIV are 50 years and older. Given the extended life expectancy of those living with HIV, comorbidities such as hypertension, hyperlipidemia, and endocrine disorders are more common. The HIV patient population needs have changed over the years, yet it is unknown if the clinical pharmacist's role has evolved. The purpose of this study is to understand if pharmacists in HRSA Ryan White HIV/AIDS Program funded clinics are providing non-HIV comorbidity comprehensive medication management (CMM) or HIV CMM alone. Additionally, the focus of this study is to investigate facilitators and barriers to pharmacist's providing CMM of non-HIV comorbidities.

Methods

This is a prospective, observational, survey pilot study of clinical pharmacists in Ryan White HIV/AIDS Program clinics. Ryan White HIV/AIDS Program clinics in the southeast United States were identified via the HRSA website and screened for inclusion of a clinical pharmacist in their services. Clinical pharmacists within the clinics were invited to participate in the survey via phone or email and all entries were recorded via Qualtrics. Survey data was collected to gather information regarding the scope of the pharmacists' practice, facilitators, and barriers to providing CMM for non-HIV comorbidities.

Approximately 100 potential sites will be contacted for a convenience sample. Descriptive statistics will be used to summarize demographic data and responses to the survey. Potential correlations will be made utilizing regression analyses.

Results

Results will be forthcoming as data collection is in progress.

Conclusions

Conclusions will be drawn following study conclusion. Based on the research results, future qualitative studies are anticipated.

Heiing, Austin

Evaluation of the efficacy of tenecteplase versus alteplase for the treatment of acute ischemic stroke in a multicenter health system

Heiing, Austin - Author[1]; Daniel, Brittany - Co-Author[1]; Phelps, Meagan - Co-Author[1]; Ploegman, Noah - Co-Author[1]
[1]Ascension Saint Thomas Rutherford

Background/Purpose

Over 795,000 people in the US suffer from a stroke each year. Majority of strokes are acute ischemic strokes (AIS), causing vessel occlusion and blocking blood flow. Treatment goals in AIS include reperfusion, which is performed via thrombolytics. Currently, alteplase (tPa) is the only FDA approved thrombolytic for the treatment of AIS. However, tenecteplase (TNK) has gained traction given its efficient drug administration. The goal of this study is to evaluate the efficacy of TNK in AIS.

Methods

This was a multicenter, retrospective observational study of patients admitted for AIS who received either TNK or tPa between April 2020 and June 2021. The primary outcome was major clinical improvement at 24 hours determined by change in NIHSS score. Secondary outcomes included incidence of intracranial hemorrhage, any bleed, angioedema, and death. A post-hoc analysis was completed on patients shown to have a large-vessel occlusion on imaging at presentation.

Results

Two hundred patients were initially included for the study. Of those 200, 6 patients were excluded. Of the remaining 194 patients, 87 received alteplase and 107 received tenecteplase. There were no significant differences between the two groups (p-value = 0.285) in terms of primary outcome. There were no significant differences between the two groups in terms of safety outcomes either. In the post-hoc analysis, no differences were found between the primary outcome (p-value = 0.834) or any secondary outcomes.

Conclusions

Due to these results, it is reasonable to continue with the use of tenecteplase in our healthcare system for patients presenting with acute ischemic stroke who are eligible for thrombolytic therapy. Further studies examining alteplase and tenecteplase in patients exclusively with large vessel occlusions are needed to determine if there is a difference in efficacy and safety in this population.

Hildebrand, Joshua

Cardiovascular Outcomes in Hepatitis C Donor Positive Versus Hepatitis C Donor (HCV) Negative Kidney Transplant Recipients with Diabetes Mellitus

Hildebrand, Joshua - Author[1]
[1]Methodist University Hospital

Background/Purpose

Many risk factors for cardiovascular diseases, such as hypertension, dyslipidemia, and diabetes, are highly prevalent in patients with chronic kidney disease (CKD). The risk of cardiovascular events is not diminished after kidney transplantation (ktxp) and cardiovascular outcomes remain the primary cause of mortality after transplantation. The emerging use of HCV positive organs can indirectly impact the timely initiation of atherosclerotic cardiovascular disease (ASCVD) risk lowering agents. Significant drug interactions exist between the direct-acting antivirals (DAAs) used to treat HCV and statins. For recipients that receive an HCV positive kidney, HCV treatment is prioritized creating delays y in the initiation of statin or other ASCVD lowering agents. The objective of this study is to determine if diabetic kidney transplant recipients had worse cardiovascular outcomes based on the donor HCV status.

Methods

The purpose of this retrospective analysis is to evaluate cardiovascular outcomes in diabetic kidney transplant recipients who received HCV donor positive versus HCV donor negative organs. The primary endpoint of this study is to compare the incidence of cardiovascular outcomes one year after transplantation. The study population includes adults who received a solitary kidney transplant between March 3, 2018 and July 31, 2021.

Results

Among the 67 patients reviewed, 52 patients were included. Patients on average were 53 years old, African-American, male and approximately 44% of the patients were on ASCVD lowering therapy before ktxp. The 27 patients in the HCV donor positive group received DAAs for 12 weeks and DAA initiation happened 72.9 days after ktxp. No difference was seen in cardiovascular outcomes at one year between the two groups. Although not significant, ASCVD therapy was initiated earlier in the HCV donor positive group 54.1 days versus the comparator arm 109.4 days.

Conclusions

Based on preliminary results, no difference was seen in cardiovascular outcomes between diabetic kidney transplant recipients with HCV positive donors. Initiation rates of ASCVD therapy was similar in each group.

Hinkle, Seth

Impact of Gram-Positive Blood Culture Contamination in Patients with Confirmed COVID-19 Disease

Hinkle, Seth - Author[1,2]; Peña, Kelsey - Co-Author[1]

[1]Ascension Saint Thomas Hospital Midtown, Nashville, TN, [2]University of Tennessee College of Pharmacy, Nashville, TN

Background/Purpose

In an effort to minimize hospital staff's duration of contact with patients with COVID-19, a decrease in appropriate aseptic techniques in drawing blood cultures potentially led to an increase in contamination rates of blood cultures. It is reasonable to infer that the technique for collecting blood cultures was poorer in patients with confirmed COVID-19 versus patients without the disease due to the novelty and unknowns surrounding the disease, especially early in the pandemic with fears of staffing and PPE shortages. Patients with contaminated gram-positive blood cultures may potentially receive unnecessary and invasive procedures (i.e. echocardiograms) and empiric antibiotic treatment (i.e. vancomycin). This research is primarily aimed at evaluating gram-positive contamination rates of blood cultures and subsequent diagnostics and empiric treatment between positive and negative SARS-CoV-2 cases within our health system during the COVID-19 pandemic.

Methods

This research is a multi-center, retrospective chart review of patients with at least one positive blood culture and admitted to Ascension Saint Thomas Hospital (Midtown campus), Ascension Saint Thomas Hospital (West campus), or Ascension Saint Thomas Rutherford between March 1, 2020 and February 28, 2021. Patients with a positive blood culture alert were identified through the Sentri7 clinical monitoring tool. Patients were excluded from this analysis if they were <18 years old upon admission, pregnant upon admission, requiring regular hemodialysis prior to admission, or if they had a significant secondary infection that would require treatment with vancomycin. The primary endpoint of this study is the incidence of gram-positive blood culture contamination in patients positive for SARS-CoV-2 compared to patients without a positive result. Secondary endpoints for this study include the duration of vancomycin as well as the incidence of invasive diagnostic tests (such as TEE or TTE) in patients with contaminated blood cultures. Data collected for these endpoints include blood culture data, antibiotic administration records, and diagnostic testing results.

Results

Analysis of data will be performed after data collection has been completed and will be conducted via statistical calculation software. Results will be compiled into a slide presentation with complete analysis and conclusion.

Conclusions

See Results section.

Hoang, Kristine

Effect of Glycemic Variability on Infectious Outcomes in Critically Ill Burn Patients

Hoang, Kristine - Author[1]; Hill, David - Co-Author[1]; Ly, Austin - Co-Author[2]; Arif, Faisal - Co-Author[1]; Velamuri, Ram - Author[1]; Sultan-Ali, Ibrahim - Co-Author[1]
[1]Regional One Health, [2]University of Tennessee College of Medicine

Background/Purpose

Critically ill burn patients experience a hypermetabolic state and, subsequently, stress-induced hyperglycemia. Recent research points towards glycemic variability as a contributing factor in adverse clinical outcomes in critically ill patients. In burn patients, greater glycemic variability has been associated with increased rates of mortality and sepsis. However, no studies to date have examined the impact of glycemic variability on rates of infection in this population. Infection is a clinically significant outcome for burn patients, contributing to a majority of morbidity and mortality. The primary objective of this retrospective study is to evaluate the relationship between different measures of glycemic variability and clinical outcomes in diabetic and non-diabetic burn patients, including infection, graft loss, length of stay, and overall mortality.

Methods

This is a single-center retrospective study of patients admitted to the Regional One Health Firefighter's Burn Center between January 1, 2020 and December 31, 2020 with burn or inhalation injury. The primary outcome is presence of infection, defined as empiric or definitive systemic antibiotic treatment at least 48 hours after admission. Secondary outcomes include graft loss, hospital length of stay, and mortality. In addition to mean glucose, several different measures of glycemic variability were used for comparision, including standard deviation, coefficient of variation, MAGE, M-value, and J-index.

Results

To be reported upon study completion.

Conclusions

To be reported upon study completion.

Hoot, Diana

Evaluating risk factors associated with maternal mortality to determine prevention strategies within a large healthcare system

Hoot, Diana - Author[1]; Perry, Alicia - Co-Author[2]; Fraker, Sarah - Co-Author[2]; Cadwell, Sue - Co-Author[2]; Miller, Karla - Co-Author[2]
[1]HCA Healthcare/UTHSC, [2]HCA Healthcare

Background/Purpose

The CDC defines a pregnancy-related death as “the death of a woman while pregnant or within one year of the end of pregnancy from any cause related to or aggravated by the pregnancy.” Pregnancy-related mortality is reported as a ratio as the number of deaths per 100,000 live births. The 754 maternal deaths in 2019 correlated to a maternal mortality ratio of 20.1 deaths per 100,000 live births – a value that has steadily increased its development in 1987. As a hospital delivery impacts approximately two days out of a 280-day pregnancy, the question must be asked – what can be done during that brief window to minimize the risk of maternal demise? The purpose of this project is to critically evaluate risk factors of maternal mortality within a large healthcare system, with the ultimate goal of mitigating these factors and preventing future maternal demise.

Methods

We will identify potential prevention strategies through an in-depth, retrospective analysis and comparison of cases of maternal mortality to cases of near mortality within HCA Healthcare between January 2019 and February 2021. Patients within the near-mortality group were patients with a transfer to the ICU during their delivery admission. In order to provide points of comparison, mortality patients were matched based on age group, race, and comorbidities in a with two cases of near mortality and two cases of standard delivery admissions. The following comparative data points were assessed: healthcare point of entry, administration of cervical ripening agent, maternal demographics, COVID status, substance use, and comorbidities. The primary outcome will be identification of trends in cases of maternal mortality, with the intent to develop prevention strategies.

Results

At the time of this submission, results are yet to be determined and will be presented as preliminary.

Conclusions

At the time of this submission, final conclusions are yet to be determined and will be presented as preliminary.

Hudson, Alicyn

Safety and Efficacy of Long Acting Injectable Antipsychotics Use with Supplemental Oral Antipsychotics in Veterans.

Hudson, Alicyn - Author[1]; Norris, Meghan - Co-Author[2]
[1]G.V. (Sonny) Montgomery VA Medical Center, [2]G. V. Sonny Montgomery VA Medical Center

Background/Purpose

Long-acting injectable antipsychotics (LAIA) were developed to help improve medication adherence in patients with mental illness. Very little information is available about the safety and efficacy of using oral antipsychotics in combination with LAIA. The aim of this study was to determine the safety and efficacy of oral supplementation in Veterans receiving LAIA.

Methods

This retrospective cohort study conducted via chart review included Veterans with a prescription for a LAIA between October 1, 2018 and July 1, 2020. The primary outcome was to determine if Veterans receiving a LAIA plus oral antipsychotics differed from LAIA monotherapy based on inpatient psychiatric admissions or Emergency Department visits. Secondary outcomes were to determine if Veterans on LAIA plus oral antipsychotics differ from LAIA monotherapy based on the number of medications prescribed for diabetes, dyslipidemia, hypertension, or extrapyramidal symptoms (EPS).

Results

Preliminary results show that of the 246 prescriptions analyzed, 211 met inclusion criteria. For the combined primary endpoint, the rate of hospitalization or ED visits was higher for the combination therapy than the monotherapy groups (P=.007). Patients requiring treatment for diabetes was higher in the combination therapy group (p=.026). No significant difference between the groups was found in patients treated for dyslipidemia, hypertension, or EPS. Additionally, no difference was found in the number of medications for diabetes, dyslipidemia, hypertension, or EPS.

Conclusions

This retrospective study suggests the use of oral antipsychotics with LAIA is associated with more frequent psychiatric hospitalizations or ED visits compared to those on LAIA monotherapy. Additionally, the study showed that Veterans treated with oral psychotics and LAIA were more often treated for diabetes than those on LAIA monotherapy.

Presentation Objective
To review the efficacy and safety of Veterans treated with long-acting injectable antipsychotics in addition to oral antipsychotics.

Hughes, Colleen

Evaluation of Parenteral Anticoagulation Dosing for VTE Prophylaxis in Hospitalized Patients with COVID-19

Hughes, Colleen - Author[1]; Smith, Claudia - Co-Author[1]; Bachert, Krista - Co-Author[1]; Orr, Carla - Co-Author[1]
[1]Baptist Memorial Hospital - Desoto

Background/Purpose

Coagulopathies related to COVID-19 have been apparent since the beginning of the pandemic, yet appropriate treatment strategies are not fully defined. Recent guidelines published by the NIH recommend prophylactic doses of anticoagulation for hospitalized patients who do not require supplemental oxygen, patients requiring ICU level of care, and patients hospitalized that require oxygen through a high-flow device or noninvasive ventilation. These guidelines recommend therapeutic doses for non-pregnant hospitalized patients who require supplemental oxygen with elevated d-dimer levels (and are not at increased bleeding risk). Literature supporting the efficacy or safety of intermediate dosing is limited. The objective of this study is to investigate the efficacy and safety of parenteral anticoagulation agents at usual prophylactic, intermediate, and therapeutic doses when administered to patients hospitalized with COVID-19.

Methods

The Institutional Review Board approved this single-center retrospective observational cohort study. This study included patients over 18 years old who were diagnosed with laboratory-confirmed COVID-19 and administered parenteral anticoagulation agents for venous thromboembolism prophylaxis while hospitalized. Data was collected for patients hospitalized between March 1, 2020 and September 30, 2021. Patients who were receiving anticoagulation agents before hospital admission or who had confirmed thrombosis on admission were excluded. Patients were assigned to one of three groups: usual prophylactic, intermediate, or therapeutic anticoagulation. The assignment to each group was determined by which defined dosing strategy was utilized for at least 80% of anticoagulant doses received. The primary outcome was the incidence of thrombosis in each group, and the secondary outcomes were the incidence of major bleeding and mortality in each group.

Results

will be presented

Conclusions

will be presented

Inman, Kaitlyn

Evaluation of Periprocedural Hydration Methods for the Prevention of Contrast Induced Nephropathy

Inman, Kaitlyn - Author[1]; Fuller, Laura - Co-Author[1]; Bailey, Clara - Co-Author[1]
[1]Baptist Memorial Hospital-Desoto

Background/Purpose

Contrast-induced nephropathy (CIN) is an iatrogenic renal injury seen in susceptible populations following the administration of intravenous (IV) contrast media. According to the International Society of Nephrology, the incidence of CIN is anywhere from 1-25% depending on comorbidities. The American College of Radiology and the European Society of Urogenital Radiology both recommend IV hydration before and after contrast administration to prevent acute kidney injury. CIN most commonly occurs in cardiac patients but can also be seen in non-cardiac patients. Various strategies have been studied to identify the optimal prophylactic hydration regimen, but no consensus has been met. Failure to prevent CIN may lead to higher rates of mortality and long-term decline in kidney function. The purpose of this study is to evaluate the efficacy and safety of periprocedural hydration for the prevention of CIN in a community hospital.

Methods

This retrospective, single-center, observational cohort study was approved by the Institutional Review Board. It includes patients aged 18 years or older who received a non-emergent, inpatient procedure requiring IV contrast dye. Data was collected for patients hospitalized between January 1, 2019 and September 30, 2021. Groups were then stratified according to the method of periprocedural hydration used. The primary outcome is the incidence of CIN up to 72 hours after IV contrast exposure in patients who received periprocedural hydration versus patients who did not receive periprocedural hydration. Secondary outcomes include the incidence of CIN up to 72 hours after IV contrast exposure in patients at high risk versus low risk of acute kidney injury in addition to peak increase in serum creatinine and need for hemodialysis during hospitalization following IV contrast exposure.

Results

To be described

Conclusions

To be described

Johnson, Asia

Evaluating the Impact of Pharmacist-led Transitions of Care in Patients with Diabetes

Johnson, Asia - Author[1]
[1]Methodist University Hospital

Background/Purpose

Pharmacist-led transitions of care (PTOC) services ensure patients are provided with disease-centered education and prescribed evidence-based medication regimens, helping to address gaps in care that often contribute to hospital readmissions. While numerous studies evaluating PTOC in the inpatient setting are available, data specifically assessing outcomes of those with diabetes in this setting is limited. Providing evidence for the benefit of PTOC will demonstrate the role these services have on reducing hospital and emergency department (ED) visits, and improving patients' health. The objective of this study is to evaluate the impact of PTOC implementation on outcomes in patients with diabetes.

Methods

A retrospective, cohort analysis of patients with diabetes within Methodist University Hospital discharged from September 2016 through February 2020 was performed. Patients discharged September 2016 through May 2018 served as the comparator group, as this period was prior to the implementation of the PTOC service. The primary endpoint compared 90-day hospital readmissions in diabetic patients enrolled in PTOC to those not enrolled. Statistical analysis included Fischer's exact or chi-square tests for categorical variables and continuous variables were compared using Wilcoxon Rank Sum test.

Results

Among the 258 patients reviewed, 75 patients were included in each arm. Patients were on average 59 years old, 64% African-American, 53% male, and insured by Medicare (47%). Of the 150 patients reviewed, 68.8% in the comparator group were readmitted to the hospital within 90 days versus 31.3% in the PTOC group (p=0.113). Thirty-day hospital readmissions were lower in the PTOC group (21.1% vs. 78.9%, p=0.007). The PTOC group also had less 30-day ED visits (29.4% vs. 70.6%, p=0.07) and 90-day ED visits (27.8% vs. 72.2%,p=0.04).

Conclusions

Patients in the PTOC group had lower 30- and 90-day hospital readmissions and ED visits than those in the comparator group prior to implementation of the PTOC service. This study provides evidence for PTOC and potential impact on patients' outcomes. Consideration should be given to broaden the PTOC service at Methodist to further positively impact patient outcomes.

Jones, Camron

Outcomes Associated with Pharmacist Driven Medication Reconciliations

Jones, Camron - Author[1]; Mathis, Raymond - Co-Author[1]
[1]Magnolia Regional Health Center

Background/Purpose

Medication reconciliation is recognized by the Joint Commission's National Patient Safety Goals and focuses on the risk of negative outcomes associated with medication discrepancies. Medication discrepancies occur in up to 70% of patients at hospital admission. Discrepancies in a medication list that is incomplete or inaccurate have the potential to lead to patient harm. Pharmacists are trained to complete medication reconciliations and indent discrepancies, resulting in a reduction of negative outcomes. This research will provide additional information evaluating the impact of pharmacist drive medication reconciliations.

Methods

This study is a single-center, retrospective chart review of 30 patients admitted between August 28, 2021 to February 28, 2022. The electronic medical record was used to identify patients. Each patient's medication list was reviewed within 24 hours of admission by a pharmacist. A standard script used for each patient to provide consistency. Patient demographics, admission date, medication history, and reported adverse medication events were collected. All results collected will be reported to maintain patient confidentiality.

Results

Results will be described once data is available.

Conclusions

Results will be described once data is available.

Jones, Kerri

Evaluation of lorazepam dosing in seizure and status epilepticus patients in the emergency department

Jones, Kerri - Author[1]; Granger, Nancy - Co-Author[2]; Reid, Stefanie - Co-Author[1]; Vaughn, Rachel - Co-Author[1]; Wheeler, Sperry - Co-Author[1]
[1]Fort Sanders Regional Medical Center (Knoxville, TN), [2]Cardinal Health (Knoxville, TN)

Background/Purpose

One in ten individuals experience a seizure during their lifetime. Rapid control of seizure activity is associated with improved clinical outcomes. Numerous clinical trials and The American Epilepsy Society Guidelines recommend high-dose intravenous 4 mg lorazepam as the benzodiazepine of choice in seizure patients. The purpose of this study was to evaluate the treatment of status epilepticus and seizure patients with various doses of lorazepam.

Methods

This was a single-center retrospective medical record chart review of patients administered intravenous lorazepam for seizures and status epilepticus in the emergency department. The study was conducted at a 541-bed community hospital and included all patients who received less than 4mg lorazepam in the emergency department for seizures between September 1, 2020 and August 31, 2021 compared to all patients who received greater than or equal to 4mg lorazepam between September 1, 2018 and August 31, 2021. Exclusion criteria included patients less than 18 years of age, pregnant patients, and substance induced seizures. Data points collected included diagnosis, dosage of lorazepam administered to the patient, and the number of doses to terminate the acute seizure. The primary outcome of treatment failure was defined by requiring lorazepam re-dose within 30 minutes of original administration.

Results

The sample size was 124 patients. The less than 4mg arm included 109 patients and the greater than or equal to 4mg arm included 15 patients. The baseline characteristics were similar in both arms of the study. Treatment failure within 30 minutes occurred in 11 patients (10.09%) who received less than 4mg of lorazepam and 4 patients (26.67%) who received greater than or equal to 4mg of lorazepam (p-value=0.0847).

Conclusions

Patients administered less than 4mg of lorazepam had no statistically significant difference of treatment failure at 30-minutes.

Kail, Daniel

Analysis of a clinical pharmacist impact on medication turnaround time in an outpatient infusion center

Kail, Daniel - Author[1]; Rice, Tiffany - Co-Author[1]; Lee, Marilyn - Co-Author[1]; Ryan, Kay - Co-Author[1]
[1]Regional One Health

Background/Purpose

The continued focus and expansion of ambulatory oncology and infusion services presents new challenges to improve patient care. Pharmacists are uniquely equipped to navigate issues faced in this growing service line. Few studies have looked at ways to assess the productivity and impact clinical pharmacist services provide to manage increasing patient volumes and, correspondingly, increased patient wait times. At Regional One Health, a pharmacy resident-led initiative to assist the on-site infusion center during nurse staffing shortages identified the need for an infusion center clinical pharmacist position. The primary objective of this study is to evaluate the impact of the clinical pharmacist's interventions on medication delays in the infusion center.

Methods

This single-center, retrospective review assessed medication dispensing and administration data from May 1, 2021 to April 30, 2022 for patients seen in the outpatient infusion center. Data analyzed included medication turnaround time by drug category and medication barcode scanning overrides. The study period was split into 4-month blocks corresponding to the time before pharmacy intervention, during the resident interventional phase, and after the inclusion of a fully trained clinical pharmacist.

Results

Will be described.

Conclusions

To be completed.

Kapoor, Seerat

Perioperative cocktail injection for posterior spinal fusion surgery in adolescent idiopathic scoliosis

Kapoor, Seerat - Author[1]; Keen, Katie - Co-Author[1]; Kelly, Derek - Co-Author[2]; Padget, Anthony Mack - Co-Author[3]; Rhodes, Leslie - Co-Author[1]; Locke, Lindsey - Co-Author[1]; Sawyer, Jeffrey - Co-Author[2]; Sheffer, Benjamin - Co-Author[2]; Spence, David - Co-Author[2]
[1]Le Bonheur Children's Hospital, [2]Campbell Clinic, [3]University of Tennessee Health Science Center

Background/Purpose

Posterior spinal fusion surgery is used in adolescent idiopathic scoliosis (AIS) which can cause severe postoperative pain. Historically, pain control was achieved with patient controlled analgesia (PCA); however, this practice has transitioned to multimodal analgesia. Perioperative cocktail injections are a new method to provide multimodal pain management that have demonstrated pain reduction, decreased blood loss, and improved range of motion in total joint arthroplasty. The aim of this project is to compare post-operative PRN morphine equivalents in AIS patients undergoing spinal fusion surgery pre and post implementation of using a perioperative cocktail.

Methods

This is a single center, retrospective comparative cohort study that will include patients 10 to 21 years of age weighing at least 20 kg who underwent posterior spinal fusion between 2017 and 2020. The year 2018 will be excluded to account for a transition period from PCA to perioperative cocktail. Patients will have received either post-operative PCA or weight based perioperative cocktail containing morphine, ketorolac, epinephrine, and ropivacaine. Extracted data will include post-operative morphine equivalents, pain scores, post-operative complications, length of stay, time to ambulation and blood loss. This study protocol has been approved by the University of Tennessee Institutional review board.

Results

Results will be submitted with final slides.

Conclusions

Conclusions will be submitted with final slides.

Kara, Kendall

Evaluation of Antimicrobial Prophylaxis for Surgery

Kara, Kendall - Author[1]; Otting, Kristin - Co-Author[1]
[1]G.V. (Sonny) Montgomery VA Medical Center

Background/Purpose

Surgical site infections (SSIs) are one of the most common preventable hospital acquired infections. Most SSIs are treatable with antibiotics but increase cost, hospitalization duration, hospital readmission, morbidity, and mortality. Antimicrobial prophylaxis is recommended for contaminated, clean contaminated, and some high-risk clean procedures. Current guidelines recommend antibiotic prophylaxis be administered within 60 minutes of incision and be continued for 0 to less than 24 hours after surgery. At our facility, the surgical department reviews selected cases to ensure timing of preoperative antimicrobial prophylaxis is appropriate; however, the total duration of antimicrobial prophylaxis is unknown. This project will capture the current practices of antimicrobial prophylaxis for surgery.

Methods

This quality improvement project was a retrospective chart review that included up to 250 Veterans who had a surgical procedure at the G.V. (Sonny) Montgomery VA Medical Center from March 1st, 2021, to August 31st, 2021. The primary endpoint was to evaluate the total duration of antimicrobial prophylaxis for surgery. Secondary endpoints were to assess preoperative antibiotic duration, timing of antibiotic administration prior to incision, redosing of intraoperative antibiotic prophylaxis per guidelines, and postoperative antibiotic duration.

Results

The average total duration of antimicrobial prophylaxis for surgery was 2.62 days. For preoperative antibiotic prophylaxis, the average duration was 1.03 doses while administration within 60 minutes of incision occurred in 89.6% of the cases. Of the 4.8% of surgeries that required redosing of antibiotic prophylaxis during surgery per guidelines, 16.7% were redosed appropriately. Approximately 39% Veterans received postoperative antibiotic prophylaxis with the average duration being 5.40 days.

Conclusions

The total duration of antibiotic prophylaxis for surgery was longer than current guidelines recommend. This project highlighted the need for provider education, specifically for intraoperative and postoperative antimicrobial prophylaxis.

Keck, Jacob

Evaluation of a micafungin antifungal stewardship initiative at a large academic medical center

Keck, Jacob - Author[1]
[1]University of Mississippi Medical Center

Background/Purpose

Over the last two decades, fungal infections involving *Candida* spp. have risen, leading to an increase in the use of antifungal therapies. Studies show that delays in treatment are harmful however empiric treatment for all patients at risk of invasive fungal disease has not shown to be beneficial. In this study, we aim to evaluate the effects of a micafungin protocol on duration of therapy and clinical outcomes at an academic medical center.

Methods

This single-center, pre-/post-intervention quality improvement project evaluated patients admitted to the University of Mississippi Medical Center who received micafungin. Two patient groups were analyzed, a pre-intervention group (10/01/2020 to 09/30/2021) and a post-intervention group (10/01/2021 to present). Adult patients who received a dose of micafungin inpatient were included. Patients were excluded if they were placed on micafungin for prophylaxis or if the patient had elevated liver transaminases and/or Qtc >500 ms. Pre-intervention patients were identified using TheraDoc®, while post-intervention patients were identified via daily inpatient chart review. Using a pharmacy-driven intervention algorithm, real-time recommendations (discontinuation or de-escalation of micafungin, infectious diseases consult) were provided on post-group patients as needed. The primary endpoint was to determine if a targeted micafungin intervention protocol had an effect on the median number of treatment days of micafungin. All data was entered into REDCap®, and statistical analyses were performed using SPSS.

Results

Preliminary data of 141 patients in the pre-group were compared to 40 post-group patients. Baseline characteristics were similar between groups. The primary outcome of the median treatment days with micafungin was 4 in the pre-group and 4.5 in the post-group (p=0.774). The time to discontinuation or de-escalation, hospital mortality, and hospital length of stay were not different between groups.

Conclusions

These preliminary results demonstrate that a pharmacy driven intervention algorithm for micafungin had no effect on the median days of micafungin use within our hospital. Data collection is ongoing for the post-intervention group.

Kelley, Brittany

Impact of Pharmacist-Reviewed Urine Cultures in Patients Discharged from the Emergency Department

Kelley, Brittany - Author[1]; McMackin, Bethany - Co-Author[1]; Guinn, Courtney - Co-Author[1]; Hopkins, Jamie - Co-Author[1]
[1]Jackson-Madison County General Hospital

Background/Purpose

Pharmacists are well trained in interpretation of antimicrobial resistance, dosing, duration of therapy, identification of allergies, route of administration, and drug interactions. The Emergency Department (ED) pharmacist is in a unique position and equipped with the proper knowledge and tools to facilitate appropriate and timely modifications of antibiotic therapy. The purpose of this study is to identify the impact of a pharmacist-driven urine culture callback program.

Methods

This single-center, observational, IRB-approved, retrospective study included any patient who was discharged from the ED in which a urine culture was obtained between July 1, 2021, and August 31, 2021. Patients excluded were those who left the ED without being seen by a provider or signed out against medical advice. The primary endpoint of this study will be the percent of interventions made by pharmacists regarding the medication treatment for urine cultures. Secondary endpoints include 7 day ED revisits, 30 day admission rates, and the percentage of empiric therapy matching culture sensitivities. The percentage of patients inappropriately receiving antibiotics without a positive urine culture and the appropriateness of the dose will also be evaluated.

Results

To be described

Conclusions

To be described

Kennedy, Sydney

Effect of Continuous Sedation on Vasopressor Duration in Patients in the Surgical and Trauma Intensive Care Unit

Kennedy, Sydney - Author[1]; Gillenwater, Betsy - Co-Author[1]
[1]University of Mississippi Medical Center

Background/Purpose

It is not known which continuous infusion sedation medication would provide optimal sedation while minimizing vasopressor requirements in critically ill surgical trauma patients. There are studies that evaluate the use of dexmedetomidine versus propofol in septic shock, yet there is no conclusive evidence that suggests the use of one providing less vasopressor requirements. There is no guidance to recommend propofol or dexmedetomidine in patients requiring vasopressors for shock of different etiologies. There are no current studies comparing the use of dexmedetomidine versus propofol and duration of vasopressor use in the surgical and trauma ICU population, a complex population that can experience shock from multiple etiologies. Propofol and dexmedetomidine are both known to induce hypotension. The purpose of this study is to evaluate the effects of continuous sedation on duration of vasopressor therapy in critically ill surgical and trauma patients.

Methods

This single-center, retrospective cohort study evaluated patients admitted to the surgical and trauma ICU service between January 1, 2018, and January 1, 2021. Patients 18 years of age or greater, mechanically ventilated for greater than 24 hours, received vasopressors and concomitant continuous infusion propofol or dexmedetomidine were included in this study. Patients were excluded if they were a prisoner, pregnant, receiving continuous infusion neuromuscular blocking agents, documented traumatic brain injury, or vasopressor indication for supratherapeutic MAP goals. The primary outcome was to compare total duration (hours) of concomitant vasopressor therapy in patients on continuous propofol or continuous dexmedetomidine. The secondary outcomes included: ICU length of stay (in days), duration of mechanical ventilation (in hours), and delirium incidence (CAM-ICU positive).

Results

There are no results to report at this time. Results will be described as available

Conclusions

There are no conclusions to report at this time. Conclusions will be described as available

Keveryn, Emily

Evaluating the Impact of COVID-19 on Longitudinal Experiential Rotations: A SOAP Note

Keveryn, Emily - Author[1]; Montgomery, Natalie - Co-Author[1,2]; Jenkins, Anastasia - Co-Author[1,2]; Bouldin, Alicia - Co-Author[2]

[1]Baptist Memorial Hospital - North Mississippi, [2]University of Mississippi School of Pharmacy

Background/Purpose

The COVID-19 pandemic forced many professional pharmacy programs to discontinue in-person learning, which ultimately impacted the learning experience for many pharmacy students nationwide. Hybrid learning experiences, commonly described as "a combination of face-to-face instruction with computer-mediated instruction," were utilized during the pandemic for pharmacy students at the University of Mississippi School of Pharmacy (UM-SOP). Specifically, we focused on the second-year pharmacy students (PY2s) who participated in their ten-week longitudinal institutional introductory pharmacy practice experience (IPPE) at Baptist Memorial Hospital-North Mississippi (BMH-NM). During 2019, all IPPE activities were conducted on-site. In response to the COVID-19 pandemic, 2020 activities for students were conducted in a hybrid setting where 4 weeks of the experience were virtual and 6 weeks were on-site. While hybrid learning has been shown to be associated with better academic performance and achievement than didactic teaching in pharmacy education in some studies, we sought to assess the subjective and objective differences in student experiences. Student experiences were evaluated between the learning model from before and during the COVID-19 pandemic by analyzing surveys and essays given during rotations and after rotations were complete. The purpose of this project is to examine the similarities, differences, and themes between student responses to weekly surveys and end of rotation observational reports that were given to assess their experiences during Fall 2019 (on-site learning) and Fall 2020 (hybrid learning).

Methods

This is a single center, retrospective study. A retrospective review of weekly surveys given to IPPE students via Qualtrics during Fall 2019 and Fall 2020 will be conducted to determine the objective differences in student experience, such as number of patients seen, number of interdisciplinary interactions, and self-reported confidence when speaking with patients/healthcare professionals. A content analysis will then be performed on Fall 2020 student essays (the during-COVID group) to determine if there was a common theme or idea present throughout.

Results

Preliminary results are pending completion of data collection and will be described.

Conclusions

Preliminary conclusions are pending completion of data collection and will be described.

Khan, Sherenai

Impact of Pharmacist-Led Transitions of Care Model on Preventing Medication Errors for a Vulnerable/Underserved and Rural Patient Population following Hospital Discharge

Khan, Sherenai - Author[1,2]; Kirby, Justin - Co-Author[1]; Watson, Lindsey - Co-Author[3]
[1]Lipscomb University College of Pharmacy, [2]Dixie Vital Care Infusion Pharmacy, [3]HOPE Family Health

Background/Purpose

Hospital readmissions are an opportunity for pharmacists to play a role in optimizing patient care. The transition from acute care to the community setting is a risk for patients to be vulnerable to medication errors. Medication management provided via care transitions have evidence of improving health outcomes. It is valuable determine the impact of a pharmacist-led, interdisciplinary team initiative in a Federally Qualified Health Center (FQHC) in a rural setting.

Methods

The international review board (IRB) approved this clinical service management initiative. Patients aged ≥18 years and discharged within the last 30 days were contacted to complete an informed consent form. Patients without a qualifying inpatient stay and appointment at the site were excluded from this study. Patients were contacted via phone within 30 days of discharge for a follow up appointment. A medication reconciliation was conducted by phone or in person within 30 days of their discharge date. The primary outcome measure was identification of a reduction in the number of medication-related problems at the medication reconciliation. These were presented to the provider – thus avoiding/correcting medication errors including duplicate therapy, drug-drug/drug-disease interactions, adverse effects, allergic reactions to medications, unnecessary therapy, missing therapy, and financial burden of medications requiring alternative therapy. Secondary outcomes included reduced readmission rates for 30 days after discharge and increase in vaccination rates.

Results

This study was conducted from October 1st, 2021, to February 28th, 2022. A total of 24 patients were enrolled. For the primary outcome, 15 of the 24 medication reconciliations resulted in identification of a medication reconciliation error (or 62.5% of patients enrolled). For secondary outcomes, 22 of the 24 patients (91.7%) did not have a readmission in the 30 days following discharge and 2 of the 24 patients received a vaccination at their follow-up appointment (8.3%).

Conclusions

Provision of a transitions of care service resulted in identification of a medication reconciliation error for a majority of patients (62.5%). A majority of patients (91.7%) were not readmitted within 30 days following discharge. A minority of patients (8.3%) received a vaccination at the follow up appointment.

Kilby, Kristen

Andexanet Alfa versus Four-Factor Prothrombin Complex Concentrate for reversal of intracranial hemorrhage associated with factor Xa inhibition agents

Kilby, Kristen - Author[1]; Harlan, Sarah - Co-Author[2]; Ruckel, Cassidy - Co-Author[2]; Moore, Sarah Beth - Co-Author[2]; Mitchell, Kristie - Co-Author[2]
[1]Baptist - Memphis, [2]Baptist-Memphis

Background/Purpose

Andexanet alfa (AA) is the only FDA approved agent for direct reversal of life-threatening bleeding associated with the oral factor Xa inhibitors. Prior to AA's approval in 2018, four-factor prothrombin complex concentrate (4F-PCC) was used off-label for this indication. Recent studies have failed to find a significant difference in hemostasis or thrombotic events between agents in patients with intracranial hemorrhages (ICH). The purpose of this study is to determine the efficacy and safety of AA compared to 4F-PCC for the reversal of oral factor Xa inhibitor associated ICH.

Methods

This study is an institutional review board approved retrospective, multi-center study evaluating adult patients in a single health system presenting with ICH and prescribed an oral factor Xa inhibitor. Patients who received either AA or 4F-PCC for the reversal of an ICH were included. The primary efficacy endpoint is hemostasis on repeat imaging at 24 hours following antithrombotic reversal with 4F-PCC or AA. The primary safety endpoint is the incidence of thrombotic events within 30 days of reversal agent administration. Secondary endpoints include the stability of the bleed throughout hospitalization, early thrombotic events, and length of stay. Additionally, time from order entry to medication administration will be assessed for each reversal agent. Statistical analysis was preformed using student's t-test or Wilcoxon Rank Sum for continuous variables and Chi Squared or Fisher's Exact test for categorical variables, as appropriate.

Results

Twenty-nine patients were included in this analysis; ten patients received 4F-PCC and 19 received AA. Baseline characteristics were similar between the groups. Similar hemostasis achievement on repeat imaging was observed [84.2% AA group versus 90% 4F-PCC, (p=0.667)]. Thirty-day thrombotic events occurred in 1 (5.3%) of the AA patients compared to 2 (20%) of the 4F-PCC patients (p=0.267). There was no statistically significant difference between groups for secondary outcomes. Median time from ED arrival to medication administration was similar [105 minutes in the AA group versus 118 minutes in the 4F-PCC group (p-value 0.689)].

Conclusions

AA and 4F-PCC had similar incidences of hemostasis achievement and comparable safety profiles. Additional randomized controlled trials are necessary to further evaluate the safety and efficacy of these reversal agents.

Komis, Robert

Evaluation of infiltration rates in mid-line access versus peripheral access devices in patients receiving parenteral nutrition

Komis, Robert - Author[1]; Herrera, Oscar - Co-Author[1,2]; Christensen, Michael - Co-Author[1,2]
[1]Le Bonheur Children's Hospital, [2]University of Tennessee Health Science Center

Background/Purpose

Peripheral parenteral nutrition (PPN) is used to meet nutrition needs in patients who are dependent on parenteral nutrition (PN) but are unable to obtain central venous access. PPN has been associated with high rates of phlebitis and infiltration. Per the 2014 American Society for Parenteral and Enteral Nutrition Clinical Guidelines, peripheral parenteral nutrition admixtures should be limited to an osmolarity of up to 900mOsm/L. This recommendation was based on 8 studies undertaken between 1977 and 1996 and included only true peripheral access devices. A previous medication use evaluation at our institution showed an association between infiltration occurrence and days of PPN. Differences in osmolarity were not statistically significant, however it did not evaluate the effects of newer IV access devices available on overall infiltration rates. The objective of this study is to build upon that review and will evaluate rates of infiltration that have occurred in pediatric patients on PPN based on IV access device. By conducting this study we hope to determine a maximum safe osmolality for mid-line IV access devices to serve as a guide for pharmacists and other clinicians taking care of patients receiving PPN.

Methods

This study is an Institutional Review Board approved retrospective cohort study, comparing infiltration rates in patients receiving PN based on access device. The electronic health record will be utilized to identify patients who received PPN between January 1, 2013 and December 31, 2020. The following data will be collected: postnatal age, gestational age, gender, weight, duration of PPN, composition and osmolarity of PPN, location of peripheral venous access, description and time of occurrence of infiltration, use of hyaluronidase, rate and site of lipids, and concomitant medications. Data will be recorded with patient identifiers and maintained confidentially. Statistical analyses will be performed to determine incidence of and risk factors leading to infiltration with PPN administration.

Results

Results will be submitted within final slides. Currently 550 patients have been screened for inclusion and data collected as listed in the methods section.

Conclusions

Conclusions will be submitted within final slides.

Kuhn, Sarah

Evaluation of Sodium Zirconium Cyclosilicate in Addition to Standard of Care for Prevention of Progression to Emergent Hemodialysis in Severe Acute Hyperkalemia

Kuhn, Sarah - Author[1]; DeClerk, Kristin - Co-Author[1]; Hopkins, Brandy - Co-Author[2]
[1]CHI St. Vincent Infirmary, [2]brandy.hopkins@commonspirit.org

Background/Purpose

Determine if the addition of sodium zirconium cyclosilicate (SZC) to standard of care (SOC) versus SOC alone prevents the progression to hemodialysis (HD) in severe acute hyperkalemia.

Methods

This is a retrospective cohort study that will be completed via chart review. A report of ICD10 hyperkalemia diagnosis codes from January 1, 2019 through October 1, 2021 was used to identify patients with acute hyperkalemia. Subjects were grouped into two categories: SZC in addition to SOC (insulin +/- glucose) versus standard of care alone. Subjects were included if they met the following criteria: age $\geq$ 18 years old, severe hyperkalemia, and treated with SOC. Severe hyperkalemia was defined as serum potassium >6 mEq/L or >5.5 mEq/L with clinical signs such as arrhythmia or other ECG abnormalities, muscle weakness, and/or ascending paralysis. Subjects were excluded if they met the following: HD as part of their normal regimen, pregnant or breastfeeding, and treatment with other potassium-binding agents or SOC within the previous 24 hours. The primary endpoints are progression to emergent hemodialysis within 6 and 12 hours. Secondary endpoints include mean reduction in serum potassium, time to potassium normalization (<5.0 mEq/L), time to potassium normalization with additional potassium lowering agents, length of hospitalization, and mortality. Baseline characteristics will be analyzed using mean +/- standard deviation (SD) and independent student t-test for continuous variables. Categorical variables will be reported as number/percentage of population and Chi-square test and Fisher's exact test will be used when appropriate. P values of < 0.05 will be considered statistically significant for differences detected between compared data variables and confidence intervals of 95% will be used to demonstrate the magnitude of difference.

Results

Results to be described.

Conclusions

Results to be described.

Lager, Joshua

Assessment of prevention and treatment of alcohol withdrawal syndrome in patients across a large health-system: A retrospective chart review of various treatment modalities

Lager, Joshua - Author[1,2]; Wiggins, Elizabeth - Co-Author[1]; Drummond, Frank - Co-Author[1]; Rushton, Amy - Co-Author[1]; Gruca, Justin - Co-Author[3]
[1]HCA, [2]University of Tennessee, [3]HCA/ University of Tennessee

Background/Purpose

Alcohol withdrawal syndrome (AWS) is a complex clinical emergency that may develop with abrupt discontinuation of alcohol consumption in individuals with alcohol dependence or chronic/heavy alcohol use. There is currently a lack of universally accepted guidance for the management of AWS in hospitalized patients, which may lead to varying clinical practices. Our primary goal of this study is to identify the various treatment practices that exist to treat AWS within a large health-system.

Methods

This retrospective descriptive study will be capturing de-identified patient data through an electronic data collection. Orders for patients will be included if they were between ages 18-89 years, had a diagnosis of alcohol withdrawal indicated by ICD-10 codes, and utilized of the alcohol withdrawal order set within the respective hospital. Patients will be stratified by AWS treatment modalities that include benzodiazepines, gabapentin, phenobarbital, oral or intravenous alcohol, and baclofen. AWS indications for treatments that are not listed will also be identified. Primary endpoint will be to identify various treatment modalities. Secondary endpoints will include length of stay, transition to higher level of care, alcohol withdrawal complications (e.g., delirium tremens, seizure), and readmission to the same hospital post discharge.

Results

Research in progress/ Preliminary Results

Conclusions

Research in progress

Le, Giang

Retrospective review of the appropriateness of oral antibiotic discharge prescriptions in the Emergency Department at a rural hospital

Le, Giang - Author[1]; Ivy, Madalyn - Co-Author[1]; Dickey, Sharon - Co-Author[1]; Welch, Ron - Co-Author[1]
[1]Baptist Memorial Hospital - Golden Triangle

Background/Purpose

Antimicrobial therapy decisions in the ED are made empirically due to time constraints, workload, goals to reduce patient wait time, and limited results at time of discharge. Providers often make rapid decisions based on limited information for antibiotic discharge prescriptions. The reported rate of inappropriate antimicrobial use in the ED is similar to the inpatient setting, approximately 40% to 60%, but the ED has not received as much focus on antimicrobial stewardship as the inpatient setting. The purpose of this study is to assess the appropriateness of empiric oral antibiotic ED discharge prescriptions. The results of this study will help identify the need for educational tools and/or expansion of pharmacy services to include collaborative protocols, modification of order sets, or pharmacy consultation of empiric discharge antibiotic selection to potentially improve overall patient care.

Methods

This study is a retrospective electronic health record review at Baptist Golden Triangle and includes adult patients with an ED visit from June 1, 2019 to June 30, 2021, who received at least one oral antibiotic prescription at discharge. Patients are excluded if they are inmates, admitted to the hospital from the selected ED visit, transferred to another facility, or discharged with topical antibiotics only, including otic and ophthalmic antibiotics. The primary outcome is the assessment of appropriate antibiotic discharge prescriptions. Assessment is performed by a panel of clinicians including the primary investigator, co-investigator, a pharmacist with ED experience, and a pharmacist with Infectious Diseases area of interest. Criteria for appropriateness is based on Infectious Diseases Society of America (IDSA) guidelines for the established diagnosis. Parameters for appropriateness include: empiric drug selection, dosage, frequency, duration, and subsequent cultures and sensitivities. Collected data is analyzed by statistics for continuous and nominal data.

Results

421 patients were randomized from 18,289 identified records. Twenty-one patients were excluded leaving 400 to be included in the final analysis. Identified infectious disease states included: urinary tract (121), skin and soft tissue (88), ear, nose and throat (48), respiratory tract (25), dental (25), intra-abdominal (18), sexually transmitted (17) and mixed infections (44). Data collection is ongoing.

Conclusions

In progress.

Lea, Elliot

Incidence of Acute Kidney Injury in Patients undergoing Percutaneous Coronary Intervention a Single-Center Retrospective, Observational Cohort Study

Lea, Elliot - Author[1]; Wilson, Dylan - Co-Author[1]
[1]West Tennessee Healthcare JMCGH

Background/Purpose

Acute kidney injury (AKI) is associated with significant increases in mortality, morbidity and length of stay. The incidence of AKI in patients that undergo percutaneous coronary interventions (PCI) is related to the volume and type of iodinated contrast dye, hydration status of the patient, and certain patient characteristics.

Methods

This was a retrospective descriptive study of patients who underwent PCI in January – June of 2021. Patients were identified using the National Cardiovascular Data Registry (NCDR) CathPCI Registry of patients. The primary endpoint was the occurrence of AKI after PCI defined by the Kidney Disease: Improving Global Outcomes (KDIGO) guidelines on AKI. Secondary endpoints included: the rate of AKI occurrence in risk stratified groups, effects of fluids and volume administered on the rate of AKI occurrence, subgroup analysis of AKI rates based on contrast media type and volume utilized.

Results

In total, 27 of 425 patients (6.35%) developed AKI using KDIGO AKI criteria. The NCDR risk adjusted rate for AKI was 5.69%, below the national 50th percentile of 6.95%.
AKI occurred in 18.5% of the high risk patients, 6.67% of the moderate risk group, and 3.2% of the low risk group ($p = 0.001$). 57.1%, 53.4% and 63.9% of patients in the high, moderate and low risk group, respectively, received IV fluids ($p = 0.073$).
Of the patients that developed AKI, 55.6% received fluids, similar to the overall PCI population, 60% ($p = 0.881$).
Iso-osmolal contrast use was similar between the AKI and non-AKI groups (66.7% vs 67.3%, $p=0.800$) and was 37.1%, 21.6% and 58.9% among the low, moderate and high AKI risk groups ($p<0.001$).
The average contrast volume given to AKI and non-AKI patients was 183.2 mL and 163.9 mL, respectively ($p = 0.173$).

Conclusions

Patients in the high AKI risk group were more likely to receive iso-osmolal contrast, demonstrating appropriate contrast selection based on AKI risk. Fluid administration and total volume were not correlated with AKI occurrence, however 40% of patients did not receive any periprocedural IV fluids.

Leidy, Sara

Standard of Care with or without Intravenous Immunoglobulin in the Treatment of Cytomegalovirus in Patients with History of Allogeneic Hematopoietic Cell Transplantation

Leidy, Sara - Author[1]
[1]Methodist University Hospital

Background/Purpose

Allogeneic hematopoietic cell transplant (HCT) patients are at an increased risk of infection secondary to conditioning chemotherapy, immunosuppression, and a prolonged time to rebuild immunity. Intravenous immunoglobulin (IVIG) is typically used in patients with severe hypogammaglobulinemia (IgG <400 mg/dL) with recurrent viral infections. In the prophylactic setting, it has shown no benefit and the potential for increased risk of post allogeneic HCT complications including sinusoidal obstruction syndrome (SOS). Currently, there are no studies evaluating the addition of IVIG to standard of care (SOC) for treatment of cytomegalovirus (CMV). This study evaluated whether the addition of IVIG to SOC improves time to resolution of viremia.

Methods

A retrospective analysis was conducted of adult patients admitted to Methodist University Hospital from May 1st, 2015 to May 31st, 2021 who received treatment for CMV post allogeneic HCT. Patients were grouped based on if they received SOC (including ganciclovir, cidofovir, foscarnet) alone or SOC plus IVIG. All encounters that met inclusion criteria were included in the baseline demographics. For all other data, patients were only included if their pre-treatment CMV viremia level was > 137 IU/mL based on pre-specified definitions. The primary outcome was resolution of viremia at six weeks. Development of graft versus host disease (GVHD) or SOS at 100 days after initiation of anti-CMV therapy was also assessed.

Results

Of the 78 encounters included in the baseline demographics, 50% were female, 51.3% were Caucasian, with a median age of 56 years (IQR 49-62.25). Forty-six encounters met a pre-treatment CMV viremia level of > 137 IU/mL. Five patients (10.9%) received SOC alone and 41 patients (89.1%) received IVIG plus SOC. For the primary outcome, there was no statistically significant difference in resolution of viremia at 6 weeks for SOC alone compared to SOC plus IVIG (80% vs 34.1%, p = 0.069). No patients developed SOS, and there was no significant difference in development of GVHD.

Conclusions

Although there was no statistically significant difference in resolution of viremia, SOC alone had a higher rate of resolution. The addition of IVIG to SOC did not increase the risk of post allogeneic HCT complications.

Lewis, Natasha

Ethnic/Racial and Sex Disparities with HPV Vaccines in Mississippi

Lewis, Natasha - Author[1]
[1]MS State Department of Health Pharmacy

Background/Purpose

The purpose of the study is to determine any disparities between specific races, ethnic groups, and gender to better determine the hesitancy of getting the HPV vaccine within the state of Mississippi. Human papillomavirus, or HPV, is a viral infection of the reproductive tract that can cause a series of complications, including cancer and warts. It is reported that approximately 42 million Americans are currently infected with this virus, with at least 13 million Americans becoming infected every year. According to the National Immunization Survey - Teen records, the percentage of adolescents ages 13 to 17 that received all recommended doses of the HPV vaccine within the state of Mississippi had a slight increase from 2016 (29.1%) to 2019 (30.5%) vs. the United States' percentages (43.4% vs. 54.2%, respectively.) In the state of Mississippi, it is estimated that 38.3% of African Americans and 21.6% of Caucasians have received the HPV vaccination vs. 54.3% of African Americans and 51.6% of Caucasians in the United States. In Mississippi, 32.1% and 29.0% of females and males have the HPV vaccine vs. 56.8% and 51.8% in the United States, respectively. The purpose of the study is to determine any disparities between specific races, ethnic groups, and gender to better determine the hesitancy of getting the HPV vaccine within the state of Mississippi.

Methods

This study is a descriptive analysis using vaccination data from the Mississippi Immunization Information eXchange database, also known as MIIX. Inclusion criteria includes Mississippi residents ages 11-14 years that received their Tdap and/or HPV vaccinations within the years of 2015 to 2019. Vaccinations received after 2019 will be excluded from the analysis.

Results

Between 2015-2019, 187,853 HPV vaccinations were administered to 126,109 youth between the ages of 11-14 years. About 2 in 3 vaccines were administered to youth 12 to 13 years. The proportion of male and female youth who received at least one HPV vaccination was not significantly different. The proportion of youth 11-14 who received at least one HPV vaccination was significantly different by ethnicity and race (X^2 <0.0001). Non-Hispanic Black youth had the highest proportion of vaccinations. Between 2015-2019, 54.5% of youth 11-14 years received only one HPV vaccination, 35.1% received two, and 10.4% received three or more. Period data for up-to-date vaccination was significantly different by sex (X2 <0.0001) and race/ethnicity (MH X^2 <0.0001). In assessing vaccination completeness among Non-Hispanic Black and Non-Hispanic White youth aged 11-14 years, Black youth were not significantly more likely to be up-to-date (receive 2 or more HPV vaccines) than White youth.

Conclusions

Additional multi-level regression analyses will be conducted to better assess completion of vaccination series and vaccination by race and ethnicity.

Lukas, Jack

Predictors of Response to Oral Midodrine to Facilitate Weaning of Intravenous Vasopressors

Lukas, Jack - Author[1]; Samarin, Michael - Co-Author[1]; Kimmons, Lauren - Co-Author[1]; Jones, Morgan - Co-Author[1]
[1]Methodist University Hospital

Background/Purpose

Midodrine is commonly used in critically-ill patients to facilitate weaning of intravenous (IV) vasopressors. However, conflicting evidence exists regarding the feasibility and safety of this practice and no study has identified specific factors that are associated with a positive response to midodrine. This study aimed to describe predictors of response to midodrine in critically ill patients on IV vasopressors.

Methods

This retrospective analysis included critically-ill adult patients who were started on midodrine to wean IV vasopressors in the intensive care unit. Patients who received at least three doses of midodrine concurrently with IV vasopressors were included for evaluation. We excluded patients who were pregnant, breastfeeding, taking midodrine prior to admission, or for whom the midodrine indication was hepatorenal syndrome or related to ascites or cirrhosis. Multivariate analyses were performed to determine variables independently associated with a positive response to midodrine, defined as patients who either: (1) discontinued IV vasopressors within 24 hours of starting midodrine or (2) had at least a 50% dose reduction in IV vasopressors for at least 24 hours after starting midodrine.

Results

Of the 752 patients screened, 166 were included. Based on predetermined definitions, 31% (n=51) of patients were considered midodrine responders. Patients who responded to midodrine had a higher incidence of COPD (10% vs. 22%; p=0.04) and liver disease (5% vs. 16%; p=0.03) at baseline, and were less likely to require mechanical ventilation (74% vs. 57%; p=0.03) during their admission. Multivariable logistic regression analysis identified preexisting liver disease and midodrine dose at discontinuation of IV vasopressors as factors independently associated with a positive midodrine response. Preexisting liver disease was associated with a 12-fold increase in the likelihood of midodrine response (OR 11.5, 95% CI 2-67; p=0.007) while each 5 mg increase in midodrine dose decreased the likelihood of response by 55% (OR 0.45, 95% CI 0.25-0.79; p=0.006).

Conclusions

In our study, preexisting liver disease and midodrine dose upon IV vasopressor discontinuation were independently associated with a positive response to midodrine. These results warrant further investigation and development of a more standardized protocol for using midodrine to wean IV vasopressors in order to optimize patient care and outcomes.

Lyons, Christian

Effect of intravenous acetaminophen on opioid use in post-operative bariatric and cardiovascular patients

Lyons, Christian - Author[1]
[1]Methodist Le Bonheur Healthcare - Germantown

Background/Purpose

Government and healthcare officials nationwide have pushed to reduce opioid use to combat a growing trend in misuse, overdose, and death. Initiatives to reduce opioid use include non-pharmacologic and non-opioid pharmacologic options to lower patient need for opioid medications both inpatient and outpatient. This study aims to evaluate the effect of intravenous acetaminophen in reducing opioid use in post-operative bariatric and cardiovascular patients.

Methods

This study was a retrospective chart review of cardiovascular and bariatric surgery patients admitted from November 2018 – November 2021. Patients identified for inclusion were age ≥18, at least 48 hours in hospital post-op, and received opioid pain management with or without intravenous acetaminophen. The primary endpoint was a comparison of opioid use (morphine milligram equivalents) in patients receiving opioids with adjunct intravenous acetaminophen and opioids without adjunct intravenous acetaminophen. Secondary outcomes included opioid-related complications (i.e. respiratory depression) and maximum allowed daily opioid intake on discharge prescriptions (morphine milligram equivalents).

Results

In progress, to be described.

Conclusions

In progress, to be described.

Magana, Logan

Evaluation of Extended Infusion Meropenem and Cefepime versus Standard Infusion in the Management of Critical Patients in a Large Rural Health System

Magana, Logan - Author[1]; McCrory, Kim - Co-Author[1]; Eschete, Lori - Co-Author[1]
[1]North Mississippi Medical Center Tupelo, MS

Background/Purpose

New and growing evidence has shown that use of extended infusion dosing for beta-lactam antibiotics can enhance their efficacy and bactericidal action due to their time-dependent pharmacokinetics. This dosing method has been shown to lead to less bacterial resistance. This study was conducted to determine if extended infusion of cefepime and meropenem affected this institution's antibiogram MICs for respiratory *Pseudomonas* cultures, mortality and readmission rates, and costs for this institution compared to standard infusion.

Methods

A single center, retrospective chart review of patients treated for *Pseudomonal* pneumonia in this institution's critical care unit. Groups of patients post-implementation of extended infusion dosing were identified and patients for regular infusion from pre-implementation were identified as control for comparison. Inclusion criteria consisted of any patient who had a positive *Pseudomonal* respiratory culture and given either meropenem, cefepime or both. Patients who were less than 18 years of age, had SARS-CoV-2 (COVID-19), or were admitted outside of the study window were excluded. The primary outcome of this study was MIC susceptibilities in *Pseudomonal* cultures from respiratory sources during the pre- and post-implementation of extended infusion cefepime and meropenem. Secondary outcomes included 30-day readmission, mortality, and cost comparisons during the pre- and post-implementation of extended infusion meropenem and cefepime.

Results

Primary outcome of MIC susceptibility percentage for standard and extended infusion cefepime and meropenem was 65% vs. 71.4% and 70% vs. 76.2% respectively. Secondary outcome results for standard and extended infusion groups were as follows: 30-day readmissions 25% vs. 14.2%, 30-day mortality 35% vs. 23.8%, and antibiotic costs $1568.35 vs. $2748.80, respectively.

Conclusions

Extended infusion dosing for cefepime and meropenem increased the percentage of susceptible *Pseudomonas aeruginosa* respiratory cultures for both cefepime and meropenem at this institution. Results showed a decreased percentage of both 30-day readmissions and 30-day mortality among patients receiving extended infusions for cefepime and meropenem.

Massey, Brianna

Clinical Characterization of Pregnant COVID-19 Patients

Massey, Brianna - Author[1]
[1]Methodist Le Bonheur Germantown Hospital

Background/Purpose

COVID-19 is a coronavirus infection that has led to many complications, hospitalizations, and deaths in patients worldwide. Currently, patients with COVID-19 that have comorbidities, such as asthma, hypertension, diabetes, overweight/obesity, and/or being a part of an ethnic minority group, have an increased likelihood of significant morbidity and mortality. In contrast, clinical outcomes of pregnant patients with COVID-19 are not well-known. As expected, there are even fewer data in COVID-19 positive, early pregnancy (<24 weeks) patients. However, the limited data have shown fetal growth restriction, preterm labor (<37 weeks), and perinatal mortality along with a wide range of complications in late pregnancy. It appears that pregnant women with COVID-19 are more likely to show symptoms, require hospitalization, oxygen supplementation, and ICU care, than non-pregnant patients. Nevertheless, if a pregnant patient remains asymptomatic, their disease progression tends to follow a similar pattern to non-pregnant patients; the risk of severe illness is as rare as the general population. The purpose of this study is to characterize the complications in the pregnant COVID-19 positive population and identify the potential biomarkers and/or comorbidities that led to these complications.

Methods

This study was a multi-center, retrospective review of COVID-19 pregnant patients' charts within the Methodist Le Bonheur Health System. COVID-19 positive pregnant patients from February 1, 2020 to November 30, 2021, were evaluated for inclusion. Pregnant patients ≥18 years of age and had a documented COVID-19 diagnosis during pregnancy were included and patients who were not admitted to the hospital or patients who were previously on chronic steroids, anticoagulation or immunotherapy prior to admission were excluded. Three hundred records were randomly reviewed to collect data for 132 patients throughout the hospital system. The primary objective was to identify and evaluate the demographics and clinical characteristics of pregnant patients diagnosed with COVID-19 within the Methodist Le Bonheur Healthcare system. The secondary objectives included evaluating the risk of pregnancy complications after COVID-19 diagnosis including, characterizing supportive care administered during admission, characterizing treatment care with the administration of emergency authorized therapies for COVID-19, and evaluating the overall risk of maternal morbidity and mortality.

Results

The results will be described.

Conclusions

The conclusions will be described.

Mattox, T. Chance

A performance improvement initiative to decrease the overall prescription process time in an outpatient pharmacy.

Mattox, T. Chance - Author[1]; Veksler, Ben - Co-Author[1]; Ward, Morgan - Co-Author[1]; Hill, David - Co-Author[1]
[1]Regional One Health

Background/Purpose

Expanding patient care services without adding revenue in an outpatient pharmacy can be difficult to balance with the need to process prescriptions. Improving the overall efficiency of the pharmacy can allow for this balance to be achieved for the betterment of the patients and pharmacy employees. Recommendations for improvement include the utilization of automation, review inventory turnover, and assess the workflow throughout the pharmacy. Implementing automation has been shown to decrease a patient's overall wait time. However, significant capital investments are required to implement automation, which might not be readily available. Identifying opportunities to redirect patients to mail order was successful for a Veterans Affairs Medical Center pharmacy, but might not be feasible for all patient populations. Lean methodology offers a way to remove waste from a process to increase its overall efficiency. We hypothesized utilizing concepts of lean methodology would improve the overall prescriptions process time, thus allowing for the implementation of patient care services.

Methods

The study was a single center, prospective case control study. Based on a priori sample size analysis, July 4th, 2021 through October 2nd, 2021 served as the study group. To create an equal control sample, weekly reports from April 4th, 2021 through July 3rd, 2021 served as the control group. Interventions began on July 6th and were made continuously throughout the study period. One-way and repeated measures ANOVA along with multiple linear regression was used to compare the change in the overall process time through the paired study periods.

Results

During the intervention period, the overall process time decreased (mean 35.892±6.609 hours versus 24.297±12.172 hours, p = 0.009).

Conclusions

Utilizing concepts of lean methodology can significantly decrease the overall process time of prescriptions in an outpatient pharmacy. During this time, we were able to promote medication therapy management and adherence call services.

McCann, Savannah

Retrospective analysis of long-acting injectable anti-psychotic use in an inpatient psychiatric setting

McCann, Savannah - Author[1]
[1]Henry County Medical Center

Background/Purpose

- The use of long acting antipsychotic intramuscular injections are approved for either the treatment of clinically diagnosed bipolar disorder, schizophrenia disorder or both.
- Long-acting injectables have the potential to increase patient adherence and optimize therapy.
- Appropriate transition between oral and intramuscular formulation for specific medications is imperative to assess patient tolerability.
- Despite guideline recommendations that acknowledge the need for oral transitioning for certain medications, some patients receive injections without prior oral therapy.
- This study will evaluate the appropriateness of oral to intramuscular transition in patients who received injections at Henry County Medical Center (HCMC)
- Objective: The objective of this study is to evaluate the use of long-acting injectable antipsychotics for psychiatric disorders in the inpatient setting.

Methods

Inclusion Criteria	Exclusion Criteria
• Admitted to HCMC psychiatric unit between May 2019 and September 2021 • Received IM long acting injectable antipsychotics inpatient: Abilify, Aristada, Invega, Fluphenazine, Haloperidol	• Patients under 18 years of age • Refusal of long acting injectable

- Primary endpoints: the number of patients who were appropriately transitioned to long acting injectables with oral therapy
- Secondary endpoints: tolerability of long-acting injectables, appropriate FDA indicated use

Results

Pending

Conclusions

Conclusion results will be reported upon completion of data collection.

McGlaughlin, Brent

Time to Therapeutic aPTT in Obese Patients Receiving Unfractionated Heparin Infusions

McGlaughlin, Brent - Author[1]; Gaston, Kan - Co-Author[1]; Lee, Marilyn - Co-Author[1]; Hill, David - Co-Author[1]
[1]Regional One Health

Background/Purpose

Achievement of therapeutic aPTT within the first 24 hours after initiation of heparin is associated with better outcomes. Current literature suggests a unique problem in dosing heparin in obese patients; capped dosing regimens may under dose these patients while dosing based on actual body weight may not consistently achieve goal aPTT. Our institution utilizes established heparin protocols that guide providers in dosing heparin based on indication and weight range. With increasing incidence of obesity in our area, the purpose of this study is to evaluate attainment of goal aPTT with our protocols within the first 24 hours in the obese patient population, as well as adverse drug events.

Methods

This single-center, retrospective study assessed patients admitted from March 1, 2019 to June 30, 2021 who received unfractionated heparin infusions at our institution. Demographic data collected included age, gender, height, and weight. Data evaluated included baseline and protocol aPTTs, time to goal aPTT, body mass index (BMI), and anticoagulation related adverse drug events. Patients included received one of the two heparin protocols, had a BMI > 30 kg/m^2, and had a minimum of three aPTTs obtained at six hour intervals within the first 24 hours. aPTTs were analyzed at the study institution using a Stago - STA compact analyzer. Patients were excluded if they were less than 18 years of age, received concurrent anticoagulation therapy other than heparin infusion, had active bleeding, a baseline aPTT > 45 seconds, incomplete data, were pregnant, or were incarcerated.

Results

Results will be described.

Conclusions

Pending results.

McIntyre, Rainah

Impact of Follow-Up Blood Cultures in Uncomplicated Enterobacterales Bacteremia from Urinary Source

McIntyre, Rainah - Author[1]; Derringer, Jon - Co-Author[2]; Heiles, Jared - Co-Author[2]; Ezell, Dustin - Co-Author[1]; Hamilton, Eric - Co-Author[1]
[1]Baptist Health Medical Center - North Little Rock, [2]Baptist Health Medical Center - Little Rock

Background/Purpose

The practice of acquiring follow-up blood cultures (FUBCs) in gram-negative bacteremia (GNB) has become controversial in clinically stable patients based on recent literature. In such studies, FUBCs were associated with longer hospital stays, longer antibiotic courses, and the majority of FUBCs were negative and did not change the course of therapy. The purpose of this multi-center, retrospective cohort study was to analyze the impact of acquiring FUBCs in patients with uncomplicated GNB from a urinary source at Baptist Health facilities.

Methods

The study population included patients admitted to three Baptist Health facilities with matching organisms from the Enterobacterales order in at least one urine culture and one blood culture from the same admission between January 1, 2019 and December 31, 2020. Patients were separated into two groups: patients with zero FUBCs and patients with one or more FUBCs. The outcomes of this study were to compare length of hospital stay and total antibiotic days of therapy between patients with and without FUBCs.

Results

Among 148 index patients, 115 had at least one FUBC drawn versus 33 patients that had no FUBCs. 100% of the FUBCs acquired were negative. Admitted patients with no FUBCs had a statistically significant shorter length of stay (median 3.6 days versus 4.4 days, p-value <0.001) and fewer total antibiotic days of therapy (median 13 days versus 15 days, p-value <0.001).

Conclusions

Patients with uncomplicated gram negative bacteremia from a urinary source who did not have follow-up blood cultures drawn had shorter hospital stays and shorter courses of antibiotics. The acquisition of FUBC in clinically stable patients with Enterobacterales bacteremia from a urinary source should be highly scrutinized.

McKnight, Kristyn

An Evaluation of Alcohol Withdrawal Management Strategies in the Intensive Care Unit

McKnight, Kristyn - Author[1]; Wilson, Ashley - Co-Author[2]
[1]UAMS Medical Center, [2]University of Arkansas for Medical Sciences

Background/Purpose

Alcohol withdrawal syndrome (AWS) is a significant complication affecting up to 18% of hospitalized patients. Current guidelines recommend benzodiazepines as first line treatment with phenobarbital, carbamazepine, gabapentin, valproic acid, and dexmedetomidine being appropriate adjunctive therapies. There are no specific standardized treatment guidelines or protocols in the management of AWS. Dexmedetomidine is commonly used in patients that are experiencing agitation and autonomic hyperactivity not well controlled by benzodiazepines. However, its use alone is dangerous due to it lacking anti-epileptic properties, putting the patient at risk for AWS-induced seizures. This study evaluated current treatment strategies with the aim of creating an electronic order set that safely and effectively facilitates the treatment of AWS.

Methods

This was a single-center, retrospective chart review of adult patients admitted to the intensive care unit for the treatment of AWS from July 1, 2019 to June 30, 2021. Patients were included if they were greater than 18 years old and admitted to the intensive care unit for management of severe AWS. Severe AWS was defined as a patient having a Clinical Institute Withdrawal Assessment Alcohol Scale Revised (CIWA-Ar) score of 20 or greater. Patients were excluded if they had a history of seizure disorder or treatment with anti-epileptics, concurrent severe neurological comorbidities, or substance withdrawal other than alcohol.

Results

The results of the investigation will be presented as they are gathered and assessed.

Conclusions

The conclusion is pending.

McVinney, Ian

Antithrombotic Therapy Effect on Hospital Readmission in Patients with Peripheral Arterial Disease Post-Revascularization

McVinney, Ian - Author[1]; Burton, Ginger - Co-Author[1]; Baird, Mallory - Co-Author[1]; Moore, Sarah Beth - Co-Author[1]
[1]Baptist Memphis

Background/Purpose

Peripheral arterial disease (PAD) is a disease affecting millions of people in the United States. Multiple PAD guidelines agree that single antiplatelet agents are recommended for primary prevention of adverse outcomes such as stroke, myocardial infarction, acute limb ischemia, and chronic limb ischemia. Despite prophylactic treatment, many patients require revascularization procedures. There is little guidance regarding the most effective antithrombotic regimen after these procedures. One study concluded low-dose rivaroxaban with aspirin therapy reduced risk of adverse limb outcomes post-revascularization, but there have been few studies evaluating this overall. The purpose of this study is to compare different antithrombotic regimens post-revascularization to determine the impact on rates of readmission.

Methods

This study is a single-center, retrospective chart review of patients admitted to Baptist Memorial Hospital – Memphis from April 1, 2016 to June 30, 2021 for acute or elective revascularization bypass procedures for peripheral arterial disease. Patients receiving antithrombotic therapy prior to admission were excluded. Additional exclusion criteria include a contraindication to antithrombotic therapy, previous revascularization procedure within one year of admission, creatinine clearance less than 30 mL/min, life expectancy less than one year, or active malignancy. The primary outcome is 90-day all-cause hospital readmission. Secondary outcomes include length of stay, 30-day all-cause hospital readmission, and a composite of myocardial infarction, stroke, admission for chronic or acute limb ischemia within 90 days, secondary revascularization, and bleeding. The primary and secondary outcomes were analyzed using descriptive statistics. This study has been approved by the Institutional Review Board.

Results

There was no statistically significant difference between the three treatment groups in regards to any of the primary or secondary outcomes. These are preliminary results and more detailed results will be presented in April.

Conclusions

Final conclusions and future directions will be described in the presentation in April.

Miller, Shelby

Impact of Meds-to-Beds Program on 30-Day Hospital Readmissions in Patients Hospitalized with Acute Myocardial Infarction

Miller, Shelby - Author[1]; Montgomery, Natalie - Co-Author[2,1]; Earl, Sally - Co-Author[2,3]; Pate, Kristen - Co-Author[2]; Jenkins, Anastasia - Co-Author[1,2]

[1]Baptist Memorial Hospital-North Mississippi Oxford, MS, [2]University of Mississippi School of Pharmacy Oxford, MS, [3]Baptist Cancer Center Oxford, MS

Background/Purpose

Transitional care in the inpatient setting can be challenging as medication non-adherence is an obstacle for patients with complex drug regimens or limited access to medications. Studies show that medication non-adherence is a large contributing factor to 30-day hospital readmission rates. In 2020, Baptist Memorial Hospital-North Mississippi (BMH-NM) implemented a bedside medication delivery and counseling program ("Meds-to-Beds") to ensure high-risk patients admitted with an acute myocardial infarction (AMI) receive their antiplatelet medications and are educated at discharge. The purpose of this study is to determine the impact of our Meds-to-Beds program on 30-day readmissions in patients admitted to our hospital with an AMI.

Methods

This single center, retrospective chart reviewed the total number of AMI readmissions from dates May 2019-October 2019 and May 2021-October 2021; this data was obtained from a quality improvement scorecard. Patients readmitted with an AMI during the 2021 dates were screened to assess if they filled antiplatelet medications, specifically a P2Y12 inhibitor, from our outpatient pharmacy. Patients readmitted to BMH-NM within 30 days after an AMI from May 2019-October 2019 and patients readmitted within 30 days after an AMI from May 2021-October 2021 who received antiplatelet medications from our outpatient pharmacy during their prior admission were included. Patients in the 2021 data who were taking antiplatelet medications prior to their initial hospitalization were excluded. The primary objective was the comparison of 2019 AMI readmission rates to the AMI readmission rates of patients who filled antiplatelet medications from our pharmacy during 2021. Data analyses were performed to determine if our Meds-to-Beds program had a significant impact on overall 30-day AMI readmissions.

Results

Preliminary results are pending completion of data collection.

Conclusions

We hypothesize there will be a decrease in AMI readmission rates in patients who received antiplatelet medications from our outpatient pharmacy compared to patients who did not participate in our Meds-to-Beds program.

Mitchell, Clayton

Outcomes of early versus late initiation of remdesivir for the treatment of COVID-19

Mitchell, Clayton - Author[1]; Turner, Ben - Co-Author[1]; Darnell, Toni - Co-Author[1]; Dickerson, Wade - Co-Author[1]

[1]Ascension Saint Thomas Rutherford, Murfreesboro, TN

Background/Purpose

To compare rates of survival to discharge among patients initiated on remdesivir within 24 hours of meeting pre-specified criteria for use compared with patients initiated on remdesivir greater than 24 hours after meeting criteria.

Methods

This was a retrospective observational study of patients admitted to a multicenter health system who received remdesivir for the treatment of COVID-19 between July 2021 and September 2021. Data collected included, but was not limited to, patient demographics, past medical history, date of COVID-19 onset, date of COVID-19 positive test, oxygen requirement on admission and prior to remdesivir administration, method of oxygen supplementation, length of stay, mortality outcome, need for mechanical ventilation, requirement of treatment in the intensive care unit, and discontinuation due to adverse effects. The primary outcome of this study was survival to discharge when initiating remdesivir within 24 hours of meeting criteria (early) compared with initiating remdesivir greater than 24 hours after meeting criteria (late). Patients who discharged from the facility with hospice or comfort care were classified as not surviving to discharge.

Results

Early initiation of remdesivir was associated with a higher rate of survival to discharge with 65 of 83 patients surviving to discharge (78.3%) compared to late initiation of remdesivir with 13 of 17 patients surviving to discharge (76.5%); however this result was not statistically significant (P value = 1.0). Statistical analysis of secondary outcomes are pending. Preliminary results demonstrate a decrease in progression to mechanical ventilation with early initiation of remdesivir (16.9% vs 17.6%) and reduced median length of stay (6.2 days vs 8.5 days).

Conclusions

Early initiation of remdesivir was not associated with improved survival to discharge in this study. Median length of stay and progression to mechanical ventilation were improved with early initiation of remdesivir; however these results have not yet undergone statistical analysis. These secondary outcomes may represent potential future research targets.

Moody, Jonathan

Retrospective characterization of blinatumomab outpatient infusion-related problems: Biting off more than we can chew?

Moody, Jonathan - Author[1]; Swanson, Hope - Co-Author[1]; Barker, Patricia - Co-Author[1]; Sciasci, Joseph - Co-Author[1]; Pauley, Jennifer - Co-Author[1]; Triplett, Brandon - Co-Author[1]
[1]St. Jude Children's Research Hospital; Memphis, Tennessee

Background/Purpose

Blinatumomab is a bispecific T-cell engager indicated for B-cell acute lymphoblastic leukemia (ALL), administered as a 28-day continuous infusion. Based on recommendations in the package labeling, patients start blinatumomab inpatient then are transitioned to the outpatient setting. These outpatient infusions can be associated with interruptions and adverse events which require support from hospital staff. While the literature concerning blinatumomab contains different approaches to outpatient infusion, the frequency and impact of interruptions and adverse events associated with outpatient infusion has yet to be characterized. The purpose of this study was to describe the prevalence and type of blinatumomab infusion interruptions and adverse events for patients receiving blinatumomab as an outpatient infusion.

Methods

Single center, retrospective review of patients that received blinatumomab between December 3, 2014 and October 31, 2021. Patients enrolled on the current upfront ALL protocol at St. Jude were excluded. Infusion interruption etiologies were reported as related to the pump, infusion set, or adverse events. Adverse events assessed were cytokine release syndrome (CRS), neurotoxicity, central line-associated blood stream infection (CLABSI), and intra-lumenal thrombosis.

Results

Preliminary results included 18 patients which accounted for 42 cycles of blinatumomab. Fourteen (33%) cycles required additional support from hospital staff due to 23 outpatient infusion interruptions. Infusion set-related interruptions occurred in 6 (14%) cycles, pump-related interruptions occurred in 6 (14%) cycles, and both infusion set- and pump-related interruptions occurred in 2 (5%) cycles. Adverse events occurring outpatient included CRS in 1 cycle (2%) and neurotoxicity in 1 cycle (2%). One patient developed a CLABSI while receiving blinatumomab requiring readmission. Three (7%) cycles required treatment with alteplase for intra-lumenal thrombosis.

Conclusions

Patients that received blinatumomab on an outpatient basis more commonly returned to St. Jude for infusion interruptions than adverse events. Since infusion interruptions cannot be eliminated, it is important to educate caregivers and patients on the possibility of interruptions and actions to take if they occur. Institutions should educate staff on how to triage and address infusion interruptions and adverse events when providing blinatumomab outpatient.

Morgan, Jillian

Assessment of Outcomes in Hospitalized COVID-19 Patients Receiving Steroid Therapy with Well Controlled Versus Poorly Controlled Preexisting Diabetes

Morgan, Jillian - Author[1]; Wells, Lindsey - Co-Author[1]; Hunt, Molly - Co-Author[1]; Goggans, Molly - Co-Author[1]
[1]Memphis VA Medical Center

Background/Purpose

The COVID-19 pandemic has been an international threat since late 2019 causing significant mortality. Multiple epidemiological studies have shown that patients with an underlying diagnosis of diabetes mellitus are at higher risk of both contracting a severe case of COVID-19 and having worse clinical outcomes, including mortality. Corticosteroids, specifically dexamethasone, are currently a level A1 recommendation for the treatment of COVID-19 in hospitalized patients requiring non-invasive ventilation and mechanical ventilation, and a B1 recommendation for hospitalized patients requiring supplemental oxygen. While corticosteroids provide significant benefit in the treatment of COVID-19, one of the known adverse effects is steroid-induced hyperglycemia. This study will examine if the level of preexisting diabetes control, measured by hemoglobin A1c (HbA1c), is associated with better or worse outcomes in hospitalized veterans receiving corticosteroids for COVID-19.

Methods

This study is a retrospective, cohort, observational study of patients admitted to Veteran's Affairs medical centers located within the Midsouth Healthcare Network. Patients diagnosed with suspected or confirmed COVID-19 receiving either dexamethasone or methylprednisolone therapy from February 1, 2020 to April 30, 2022 and have a preexisting diagnosis of diabetes mellitus will be identified. A preexisting diagnosis of diabetes mellitus will include the following: documented history of diabetes mellitus, outpatient insulin therapy, or HbA1c of ≥ 6.5 within the last 12 months. Patients will be excluded if they have received systemic corticosteroids within 30 days prior to admission, no HbA1c within 12 months of admission, or outcome data is not available. Included patients will be compared based on baseline HbA1c of ≤8 (control group) versus HbA1c of >8 (study group). The primary outcome is hospital mortality. The secondary outcomes include hospital length of stay, ICU admission, ICU length of stay, oxygen support requirements, need for organ support, and hyperglycemia.

Results

Pending further data analysis.

Conclusions

Pending.

Mull, Ashley

Assessment of Outcomes Associated with Hypoglycemia in General Medicine Hospitalized Patients

Mull, Ashley - Author[1]; Tiemann, Maria - Co-Author[1]; Crawford, Allie - Co-Author[1]; Krushinski, Kelsey - Co-Author[1]
[1]Baptist-Memphis

Background/Purpose

Hypoglycemia (blood glucose [BG] less than 70 mg/dL) is a preventable issue among hospitalized patients. Studies show tight glucose control is associated with an increased risk of severe hypoglycemia (BG less than 40 mg/dL), hospital length of stay (LOS), and mortality. The American Diabetes Association recommends a BG goal of 140-180 mg/dL for most hospitalized patients. The objective of this study was to determine if hypoglycemia in adult general medicine patients is associated with an increased LOS when no pharmacologic intervention is made to prevent future hypoglycemic events.

Methods

This study was a single-center, retrospective chart review evaluating adult patients admitted to Baptist-Memphis' general medicine floors from January 1, 2019, to January 1, 2020, that had hypoglycemia. Patients included were those 18 years or older admitted with a past medical history of diabetes and receiving scheduled anti-diabetic therapy. Excluded patients were those with no known history of diabetes, admitted with a blood glucose less than 70 mg/dL, or consulted for an endocrinology evaluation. The primary endpoint was hospital LOS among patients who had a change in antidiabetic therapy following the first hypoglycemic event versus those who did not. Secondary endpoints included in-hospital mortality, recurrent hypoglycemia, and frequency of pharmacologic intervention performed when a BG reached 70-99 mg/dL, 40-69 mg/dL, and less than 40 mg/dL.

Results

Fifty-seven patients met inclusion criteria. Ten patients had a pharmacologic intervention after their first hypoglycemic event and 47 did not (non-intervention group). Median LOS was 6 days for the intervention group versus 8 days for the non-intervention group (p=0.54). Neither group experienced in-hospital mortality. Recurrent hypoglycemia occurred in three patients in the intervention group and 17 patients in the non-intervention group (p=0.99). Pharmacologic intervention occurred in 7% of patients at the first BG of 70-99 mg/dL, 18% of patients at the first BG of 40-69 mg/dL, and 43% of patients at the first BG of less than 40 mg/dL.

Conclusions

There was a trend towards decreased LOS in patients who received pharmacologic intervention after hypoglycemia. Most patients did not have an adjustment in their antidiabetic regimen following the first hypoglycemic event, which identified opportunities for pharmacist intervention.

Newbaker, Jonathan

Analysis of Delayed Second-dose Antibiotics for Patients with Sepsis and Septic Shock Admitted from the Emergency Department

Newbaker, Jonathan - Author[1]; Herrmann, Brennan - Co-Author[1]; Tesseneer, Stephanie - Co-Author[1]
[1]The University of Mississippi Medical Center

Background/Purpose

Early antibiotic administration is essential to the management of sepsis. While emphasis on first dose antibiotics has been subject to much attention, recent consideration has been given to the impact of delays in second-dose antibiotics. Due to the conflicting evidence regarding patient outcomes and factors in delays of second-dose antibiotics, more research is needed. The purpose of this study is to examine the frequency of, and factors associated with, major delay in second-dose antibiotics in patients with sepsis and septic shock and the impact major delays have on patient outcomes.

Methods

This is a single-center, retrospective analysis of patients with sepsis and septic shock admitted from the emergency department, between 8/1/2018 and 8/1/2021, receiving at least two doses of antibiotics. Patients less than 18 years old, transferred from an outside hospital, expired within 24 hours, discharged within 48 hours, received a second antibiotic of a different class, were COVID positive, or classified as DNR, hospice, or comfort care were excluded. The primary outcome of this study is to determine the frequency of major delays in administration of second-dose antibiotics. Secondary outcomes are to determine risk factors of major delays of second-dose antibiotics and if major delays play a role in ICU admission, need for ventilation, ICU length of stay, hospital length of stay, and mortality.

Results

To date, a total of 125 patients, with 74 (59.2%) patients without delay and 42 (33.6%) with major delay have been enrolled. Sepsis was the indication for antibiotic use in 105 (84%) patients and septic shock in 20 (16%) patients. There has been a total of 213 second-dose antibiotic administrations identified with 54 (25.4%) meeting criteria for major delays. Major delays occurred more frequently with the use of vancomycin (51.3% vs 76.6%; p=0.005) and piperacillin-tazobactam (43.6% vs 74.5%; p<0.001). Rates of ICU admission, need for ventilation, ICU length of stay, hospital length of stay, and mortality were similar.

Conclusions

Preliminary results indicate that second-dose antibiotic delays are frequent in hospitalized patients. Among patients mostly treated for sepsis, without shock, major delays in second-dose antibiotic administration were not associated mortality or other patient outcomes.

Nguyen, Anthony

Graft vs Host Disease: A Retrospective Study for Optimal Steroid Dosing for the Treatment of Acute GVHD

Nguyen, Anthony - Author[1]
[1]Ochsner Medical Center

Background/Purpose

Graft versus host disease (GVHD) is a complication of bone marrow transplant that causes the graft T-cells to attack the host. When a patient is diagnosed with acute GVHD, the main organs affected are the skin, liver, and gastrointestinal system. First-line management is systemic steroids. Upon unsuccessful first-line treatment, additional second-line agents may be added in addition to the systemic steroid.

The objective of the study is to compare the effectiveness of guideline dosing of methylprednisolone (or equivalent) versus lower doses of methylprednisolone (or equivalent) in the treatment of acute GVHD. The guidelines recommend methylprednisolone 1-2 mg/kg/day daily dosing or a systemic steroid equivalent. Treatment failure will require escalation of therapy through the addition of a second-line agent.

The two treatment groups are patients with acute GVHD being treated with methylprednisolone <1 mg/kg/day or steroid equivalent and methylprednisolone 1-2 mg/kg/day or steroid equivalent. The primary outcome is to compare efficacy between the two treatment groups defined as not requiring dose increase or addition of a second-line agent. The secondary outcome evaluates safety while undergoing treatment with systemic steroids.

Methods

The study is a retrospective, observational cohort looking at patients with acute GVHD treated at Ochsner Medical Center from October 1, 2013 to September 31, 2021. The patients are included in the research if they were diagnosed with acute GVHD, treated with a systemic steroid, and followed for 100 days post-transplant. Each patient's systemic steroid was converted into the methylprednisolone equivalent.

Results

In the methylprednisolone <1 mg/kg/day group and 1-2 mg/kg/day group, the sample size was 39 and 4, respectively. For the primary outcome in the methylprednisolone <1 mg/kg/day group, 23 patients (59%) experienced resolution while 16 patients (41%) required a dose increase or an additional agent. In the methylprednisolone 1-2 mg/kg/day group, 3 (75%) patients had resolution and 1 (25%) patient required additional therapy.

Conclusions

Systemic steroids were initiated in patients with confirmed GVHD with the most common dose being methylprednisolone <1 mg/kg/day. Due to the limited sample size, further research is needed to compare the two study groups.

Nguyen, Jenny QT.

Clinician Adherence to Pharmacogenomics Prescribing Recommendations in Clinical Decision Support Alerts

Nguyen, Jenny QT. - Author[1]; Crews, Kristine R. - Co-Author[2]; Moore, Ben - Co-Author[2]; Hasan, Murad - Co-Author[2]; Kornegay, Nancy M. - Co-Author[2]; Baker, Donald K. - Co-Author[3]; Campbell, Patrick K. - Co-Author[4]; Dean, Shannon M. - Co-Author[5]; Relling, Mary V. - Co-Author[2]; Hoffman, James M. - Co-Author[6]; Haidar, Cyrine E. - Co-Author[2]

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Background/Purpose

As part of the preemptive pharmacogenomic testing program (PG4KDS) at St. Jude Children's Research Hospital (St. Jude), gene/drug pairs with sufficient evidence for implementation are released in the electronic health record (EHR) to guide clinical care. Results are integrated into the EHR, coupled with an interpretive consult note. Clinical decision support (CDS) alerts provide therapeutic recommendations for high-risk pharmacogenomic medications at the time of prescribing. To increase baseline knowledge about pharmacogenomic implications, clinicians are educated about each gene/drug pair prior to implementation. We report on the rate of clinician adherence to pharmacogenomic-guided CDS recommendations.

Methods

A retrospective analysis was conducted for pharmacogenomic CDS alerts from May 2011 through November 2021. Post-test alert data were collected for patients enrolled on the PG4KDS protocol for 14 genes and 65 drugs. Data pertaining to the first alert that presented to clinicians from each encounter were collected for a medication order. The primary outcome was clinician adherence to CDS alerts with pharmacogenomic-guided recommendations. Adherence was defined as documentation that recommendations provided in the CDS alert were followed (e.g., dose adjustment or selecting alternative medication) or documentation of a clinically appropriate change in therapy for a patient. Chart review was conducted for alert adherence and appropriateness.

Results

During the 10-year study period, 4,680 pharmacogenomic CDS alerts were presented to clinicians. Clinicians adhered to the therapeutic recommendations provided in 4,293 alerts (92%). There were 681 alerts (15%) that presented in the inpatient setting and 3,999 alerts (85%) presented in the outpatient setting. The most common alerts for individual gene/drug pairs were *TPMT/NUDT15* and thiopurines (n=3,847), with 99.7% adherence; *CYP2D6* and ondansetron (n=668), with 48% adherence; *G6PD* and G6PD high-risk medications (n=51), with 100% adherence; and *CYP2C19* and proton pump inhibitors (n=50), with 68% adherence. Alerts presented most frequently to attending physicians (n=2,377, 51%), nurse practitioners

and physician assistants (n=1,932, 41%), medical fellows (n=349, 7%), and medical residents (n=19, 0.4%).

Conclusions

High adherence by clinicians to pharmacogenomic-guided recommendations in CDS alerts is made possible by the strong multidisciplinary support of pharmacogenomic implementation at St. Jude and the frequent education provided to clinicians on the interpretation and use of pharmacogenomic results.

Nguyen, John

Evaluation of a Meds to Beds Service and its Impact on 30-Day Readmission Rates Among Patients with High Risk of Readmission

Nguyen, John - Author[1]; Tang, Joanna - Co-Author[1]; White, Lindsay - Co-Author[1]; Brent, Zachary - Co-Author[1]
[1]Baptist Memphis

Background/Purpose

Objective: To describe the impact of a meds to beds service on hospital readmissions among high risk patients.

Hospital readmissions drastically impact patient morbidity and mortality and result in an immense financial burden to the healthcare system. The Centers for Medicare and Medicaid services (CMS) decrease reimbursements to hospitals with recurrent unplanned readmissions within 30 days of discharge. CMS has implemented the Hospital Readmission Reduction Program (HRRP), which includes a list of conditions that they consider as high-risk disease states. Three of the six conditions focused on in this study are heart failure, chronic obstructive pulmonary disease (COPD), and acute coronary syndrome. In an effort to decrease readmission rates at Baptist Memorial Hospital-Memphis, a meds to beds service was implemented. This service, offered through an onsite outpatient pharmacy, allows patients to leave the hospital with their discharge medications in hand. This service was created to circumvent any financial or transportation issues, as well as any other barriers that frequently arise post-discharge and prevent patients from obtaining their prescriptions. The purpose of this study is to evaluate the impact of the meds to beds service on 30-day unplanned hospital readmissions.

Methods

This study is a single-center, retrospective chart review of patients admitted to the hospital for heart failure, COPD, or acute coronary syndrome from April 1, 2021 to June 30, 2021. The primary endpoint is the number of 30-day all-cause readmission among patients who received bedside medication delivery versus matched control patients. The secondary endpoints are 30-day same cause readmission and 90-day same-cause readmission. Patients discharged to a long-term care facility, skilled nursing facility, rehab, hospice, or a correctional facility as well as patients who left against medical advice are excluded from this study. Each patient who received medications through meds to beds also received medication counseling by either a pharmacist or pharmacy student. The primary and secondary objectives will be analyzed using descriptive statistics.

Results

Results are still in progress and will be described at the MidSouth Pharmacy Residents Conference (MSRC).

Conclusions

Results are still in progress and will be described at the MidSouth Pharmacy Residents Conference (MSRC).

Nguyen, Linh

Impact of pharmacist-driven methicillin-resistant Staphylococcus aureus nasal screens on duration of antibiotic therapy in patients with respiratory infections

Nguyen, Linh - Author[1]; Davis, Andrea - Co-Author[1]; Taylor, Prisca - Co-Author[1]; Crader, Marsha - Co-Author[1,2]

[1]St. Bernards Medical Center, [2]University of Arkansas for Medical Sciences, College of Pharmacy

Background/Purpose

Empiric coverage of methicillin-resistant *Staphylococcus aureus* (MRSA) is warranted in some respiratory infections due to morbidity and mortality. Physicians may be hesitant to de-escalate antimicrobial therapy until cultures have finalized. Prolonged use of MRSA antibiotic coverage is associated with increased cost, antimicrobial resistance, and the risk of adverse events. MRSA nasal screens have been used as guidance for de-escalation due to the high negative predictive value reported in various trials. This study evaluates the utility of pharmacist-driven MRSA nasal screens in the de-escalation of vancomycin and linezolid used for empiric coverage in respiratory tract infections.

Methods

This retrospective pre-post study was conducted in an acute care, community hospital. Adult patients were included if they received more than one dose of vancomycin or linezolid for suspected respiratory infections. This study excluded patients who required vancomycin or linezolid for non-respiratory indications; required a repeated course of vancomycin or linezolid; or transferred to another facility, discharged, or expired within 24 hours of vancomycin or linezolid initiation. The intervention was the implementation of a policy granting pharmacists authority to order MRSA nasal screens for patients with respiratory infections. Patients were divided into two study periods. The pre-policy group included patients between November 2020 and January 2021, and the post-policy group included patients between November 2021 and January 2022. The primary outcome was a comparison of the duration of MRSA therapy before and after pharmacist ordering of MRSA nasal screens. Secondary outcomes included a comparison of hospital length of stay, 30-day readmission, and 30-day mortality between groups. Additionally, time to antibiotic de-escalation from a negative MRSA nasal screen result and provider's acceptance rate to antibiotic de-escalation were evaluated after policy implementation. Data is described using descriptive statistics.

Results

A total of 406 patients were screened and 237 patients met the eligibility criteria for inclusion in the study. One hundred and forty patients were included in the pre-policy group and 97 patients in the post-policy group. Data collection is ongoing.

Conclusions

Pending

Northcutt, Nicole

Effect of SGLT2 inhibitors on heart failure outcomes in Black patients with heart failure with preserved ejection fraction (HFpEF): A local population analysis

Northcutt, Nicole - Author[1]; Armstrong, Drew - Co-Author[1]; Campbell, Jennifer - Co-Author[1]; Jackson, Christopher - Co-Author[1,2]; Nayaar, Mannu - Co-Author[1,2]

[1]Regional One Health, [2]University of Tennessee Health Sciences Center

Background/Purpose

The goals of heart failure (HF) treatment include improving overall quality of life and reduce morbidity, mortality, and hospitalizations. There is a variety of therapeutic regimens for the management of patients with HF with reduced ejection (HFrEF; ejection fraction (EF) <40%); however, therapeutic options for patients with HF with preserved ejection fraction (HFpEF; EF >50%) have remained limited.

The EMPEROR-Preserved trial evaluated the effects of sodium-glucose cotransporter 2 (SGLT2) inhibitor Jardiance® (empagliflozin) on major outcomes in patients with HFpEF. The primary outcome demonstrated SGLT2 inhibition of 21% lower relative risk in the treatment group regardless of diabetes diagnosis. The total number of hospitalizations was also lower in the empagliflozin group and had a longer time to first hospitalization. Regarding baseline characteristics, there were notable differences displaying a disproportion between races (4.4% and 4.2% of patients were reported Black in the treatment group and placebo group, respectively, as compared to >75% white and >13% Asian in both groups). The objective of this study is to conduct a local population analysis assessing the major heart failure outcomes from the EMPEROR-Preserved trial in the Black patient population in the outpatient clinics at Regional One Health in Memphis, Tennessee.

Methods

This is a retrospective, single-centered, observational study including one patient group with HF prescribed empagliflozin. The primary outcome is cardiovascular death (defined as MI, death from procedure to treat MI, sudden cardiac death, death due to stroke or CV hemorrhage, or death due to other causes) or hospitalization for HF any time after empagliflozin initiation.

Inclusion criteria: 18 years old, Black, patient at Regional One Health outpatient clinics, heart failure diagnosis (EF>40% and clinical diagnosis per chart review), and prescribed empagliflozin between January 2015-January 2021.

Exclusion criteria: prior EF <40% or eGFR <20 mL/min/1.73m2 within 3 months of study initiation or during study period, dialysis, empagliflozin discontinued with 3 months of initiation, development of condition or disease that changes patient clinical course or hospitalization for other comorbid reasons, untreated or uncontrolled Afib/Aflutter (HR >110), uncontrolled HTN (SBP >180 mmHg), pregnancy or nursing mothers, heart transplant patient, or malignancy.

Results

Results and conclusion will be described.

Conclusions

Results and conclusion will be described.

Nulph, Douglas

Evaluating the Impact of a Computer-Assisted Pharmacy Transitions of Care Process on Medications De-prescribed on Transfer from the ICU

Nulph, Douglas - Author[1]; Kimmons, Lauren - Co-Author[1]; Bone, Rachel - Co-Author[1]; Jacobs, Anna - Co-Author[1]
[1]Methodist University Hospital

Background/Purpose

In December 2019, Methodist Le Bonheur Healthcare instituted a computer-generated pharmacy intensive care unit (ICU) transitions of care task which prompts the pharmacist to evaluate patients with orders to transfer out of the ICU and includes the scope of practice to de-prescribe medications based upon set criteria. The purpose of this study was to determine the impact of the creation of a standardized pharmacy ICU transitions of care process on medication orders as patients moved from the ICU to a lower level of care.

Methods

This was a retrospective analysis of adult patients transferred from the ICU to a lower level of care at Methodist University Hospital from January 1, 2017 – December 31, 2020. Target medications included those indicated for ICU use (pantoprazole, famotidine, quetiapine at doses 50 mg or less, continuous infusion vasoactive medications, and continuous infusion medications prohibited on non-ICU floors). The percent of inappropriate medications discontinued within 12 hours of transfer order was evaluated as well as the percentage of target medications continued upon discharge.

Results

In the year after implementation, pharmacists at Methodist University identified interventions on 1290 of 3718 patients (34.7%) with transfer orders and documented a total of 1851 interventions. Data for 150 patients in the pre-implementation group was compared to 150 patients in the post-implementation group. Significantly more target acid suppressing medications were discontinued within 12 hours of a transfer order in the post-implementation group vs pre-implementation group (famotidine 46% vs. 10%, $p=0.005$; pantoprazole 80% vs. 5.5%, $p<0.001$). Acid suppressing prescriptions started inpatient and continued at discharge without indication were also significantly reduced (famotidine 6.7% vs. 40%, $p=0.022$; pantoprazole 6% vs 41.1% $p<0.001$). There was no significant difference in discontinuation of quetiapine, vasoactive medications, or non-ICU prohibited medications within 12 hours of transfer order.

Conclusions

Implementation of a pharmacist ICU transitions of care process was feasible and resulted in pharmacist-initiated medication reconciliation in one third of patients transferring to a lower level of care. The process significantly reduced the amount of inappropriate acid-suppressing medications continued after transfer from the ICU and upon discharge from the hospital.

Odom, Randall

Outcomes of a Pharmacist-Led Monoclonal Antibody Infusion Clinic

Odom, Randall - Author[1]
[1]Ochsner Health

Background/Purpose

During the current coronavirus pandemic, monoclonal antibodies, such as casirivimab/imdevimab, have received an Emergency Use Authorization (EUA) from the U.S. Food and Drug Administration (FDA) as a therapeutic tool for mild to moderate COVID-19 to help reduce disease progression, hospitalization, and death. Throughout the pandemic, staffing concerns and overcrowding within the inpatient area of hospitals began to manifest. During the 4th wave of the pandemic in Louisiana, an increase in overall cases lead to additional shortages of hospital staff in the inpatient areas. This caused outpatient nursing staff to shift roles to inpatient settings, which resulted in a shortage of outpatient staff. Due to these nursing shortages, there was a need to leverage other healthcare providers to allow infusion sites to address the need for outpatient treatment to help reduce hospital admission rates. The Louisiana Board of Pharmacy allows for medication administration by pharmacists including in an outpatient infusion setting. The promising data for casirivimab/imdevimab and the laws allowing for pharmacist administration of mediation allowed for the opportunity to initiate a pharmacist lead clinic within the Ochsner Health.

Methods

This retrospective cohort study was conducted from July 19, 2021 to October 19, 2021. The study was an evaluation of clinical outcomes associated with pharmacist-led infusion clinics versus non-pharmacist-led clinics. Patients that received an infusion of casirivimab/imdevimab at one of two infusion centers (pharmacist-led vs non-pharmacist-led) with the highest patient volumes were included. Patients that received casirivimab/imdevimab at locations other the specified infusion centers were excluded. The primary outcome was hospitalization rates/emergency room visits within 14 days of infusion. The secondary outcomes were mortality within 28 days of infusion and operational outcomes in pharmacist managed clinics.

Results

Results pending.

Conclusions

Conclusion will be drawn upon availability of results.

Oliver, Danielle

Better Bones: Impact of a Pharmacist-Led Preventative Screening Service to Evaluate Osteoporosis-Related Risk of Fractures in Patients with Type II Diabetes

Oliver, Danielle - Author[1]; Kirby, Justin - Co-Author[1]; Valentin, Jasmin - Co-Author[2]

[1]Lipscomb University College of Pharmacy, [2]Gibbs Pharmacy

Background/Purpose

The purposes of this study are to implement a pharmacist-led preventative screening service, analyze the risk of osteoporosis-related fracture in patients with type II diabetes in an independent community pharmacy setting, and demonstrate pharmacist impact on improvement of patient care through education, counseling, accessibility, and service referrals for high-risk patients.

Methods

Participants are recruited utilizing marketing materials consisting of advertisement flyers, shelf-talkers, and referrals from collaborative practicing physicians. Participants are provided with an initial assessment questionnaire that includes information pertaining to past medical history including chronic disease states, current medication use, and previous fractures. Responses are reviewed and eligible participants are provided with the appropriate consent forms prior to proceeding with the screening service.

Eligible participants, ≥ 50 years without a previous diagnosis of osteoporosis, are provided with the initial assessment questionnaire. Participants ineligible for this study are those previously diagnosed with osteoporosis and/or between ages 50 to 64 years without risk factors provided in the questionnaire.

The screening service includes the use of an ultrasound bone mineral densitometer machine, Hologic Sahara, which provides safe, non-radiation testing and estimates calcaneal (heel) bone mineral density. Patients are provided with information regarding the examination device to ensure safe, quality testing.

After the completion of the screening process, educational materials are provided to participants based on results of the procedures and recorded responses from the initial assessment questionnaire. Participants are contacted for a 3-month follow-up via telephone or in-person and asked to complete the final assessment questionnaire.

Results

To be described and presented.

Conclusions

To be described and presented.

Pannell, Luke

Evaluation of a pharmacist-led protocol for the stepwise transition of continuous intravenous antihypertensives to enteral therapy for reduction of intravenous therapy use and cost

Pannell, Luke - Author[1]; Eschete, Lori - Co-Author[1]; Pitts, Wes - Co-Author[1]
[1]North Mississippi Medical Center

Background/Purpose

Sustained elevated blood pressure in the acute care setting is associated with increased risks of poor clinical outcomes, including death. Intravenous (IV) antihypertensives, specifically nicardipine, are utilized acutely in these patients and are titrated to keep within the target blood pressure range. Through P&T Committee approval of a stepwise approach, pharmacists have directives to transition patients receiving IV antihypertensive therapy to oral antihypertensives when the appropriate predefined criteria are met. This includes prescriptive authority and weaning/completion of IV nicardipine once goal blood pressure is achieved. This study explores the impact of a pharmacist-led intervention on the usage of IV nicardipine therapy.

Methods

A single-center, retrospective chart review was conducted on patients receiving IV nicardipine therapy during their intensive care unit stay. Data was collected following the 2019 implementation and compared with pre-implementation data from 2018. The post-implementation patients selected for review were those who underwent pharmacist stepwise intervention. The primary outcome of this study compared the usage of IV nicardipine therapy, through number of bags used, before and after implementation. The secondary outcomes examined the addition of oral amlodipine and as needed IV anti-hypertensives by pharmacists. Cost associated with nicardipine use and the potential savings obtained through pharmacist intervention was also evaluated. Measures of central tendency and a time-to-event analysis were used to analyze the data collected.

Results

Preliminary results show that the pharmacist-led, stepwise approach to transitioning from intravenous to enteral anti-hypertensive therapy resulted in a decrease in the median number of nicardipine bags required per patient to obtain goal blood pressure. Pre-implementation utilization was a median of 4 bags per patient while post-implementation showed a reduced median of 3 bags per patient. This resulted in an overall cost reduction. Secondary outcomes and final statistical analysis are still pending.

Conclusions

The pharmacist-led stepwise approach implemented to transition from continuous intravenous anti-hypertensives to enteral therapy resulted in a reduction of the number of IV nicardipine bags in the post-implementation group. Through a decrease in number of IV nicardipine bags utilized per patient, a cost reduction was observed while maintaining goal blood pressure.

Parker, Madison

To Clot or Not to Clot: A Study Examining Patients with Atrial Fibrillation Who Experience an Ischemic Stroke While Prescribed DOAC Anticoagulation

Parker, Madison - Co-Author[1]
[1]University of Mississippi Medical Center

Background/Purpose

Timely initiation of and compliance to an anticoagulant following a diagnosis of atrial fibrillation and a qualifying CHA2DS2- VASc score is vital to prevent future strokes. In recent years, direct oral anticoagulants (DOACs) have become the preferred anticoagulation therapy in this patient population. Considering that there are no dietary interactions nor therapeutic lab monitoring required, and better efficacy and safety profiles versus warfarin, DOACs are appealing to both patients and prescribers. The caveat to no coagulation labs to monitor DOAC levels leaves room for questions regarding patient compliance, and pertinent drug-drug interactions. In addition, there may be questions of appropriate prescribing due to the complexity of indications and respective dosing regimens and adjustments. The purpose of this study is to evaluate dosing appropriateness for indication, patient compliance, drug interactions, and treatment failure due to unidentified factors, in patients with atrial fibrillation who experience an ischemic stroke while prescribed a DOAC.

Methods

In this single-center, retrospective cohort study, patients who received a DOAC in the outpatient setting for the diagnosis of atrial fibrillation and presented with an ischemic stroke between January 2019 and May 2021 were identified for inclusion through the electronic health record. The primary outcome compared contributing factors for breakthrough ischemic stroke including incorrect prescribed dose, non-compliance, drug-drug interactions, or drug failure with no identifiable factor.

Results

There are no results at this time. Results will be described.

Conclusions

There are no conclusions at this time. Conclusions will be described.

Patel, Samirbhai

Implementation of a billing system for inpatient clinical pharmacy services at a community hospital

Patel, Samirbhai - Author[1]; White, Pharm.D., MBA, Casey - Co-Author[1]; Hitchcock, Pharm.D., BCPS, Sheldon - Co-Author[1]; Hicks, Pharm.D., BCPS, Marnie - Co-Author[1]
[1]Cookeville Regional Medical Center

Background/Purpose

Pharmacy practice has grown past traditional responsibilities and has progressed into direct patient care, making it necessary for pharmacists to seek reimbursement for services rendered. Yet, despite the expanding services offered, reimbursement remains primarily tied to medication dispensing and cost savings. This project aims to implement a billing system to seek reimbursement for clinical pharmacy services provided in the inpatient setting of a community hospital.

Methods

First, various pathways to reimbursement will be identified within the hospital's existing systems and historical data will be reviewed to identify the amount of revenue that could be generated from current services. Next, based upon reimbursable services identified within the clinical pharmacists' workflow, the clinical decision support system will be optimized to identify and document these interventions. Finally, a billing model will be developed to capture these interventions and submit them for reimbursement. The primary objective is to implement a system of billing for clinical pharmacy services at a community hospital. The secondary objective is to obtain reimbursement for these services.

Results

To be determined.

Conclusions

To be determined.

Philip, Mariam

Are patients consulting a healthcare provider for drug utilization review prior to purchasing over-the-counter medications, natural products, and dietary supplements?

Philip, Mariam - Author[1]; Strain, Olivia - Co-Author[1]; Foster, Karla - Co-Author[1]; McIntosh, Regan - Co-Author[1]; Morris, Jonethan - Co-Author[1]
[1]Walgreens

Background/Purpose

Patients who utilize community pharmacy services often purchase over-the-counter (OTC) products including nonprescription medications, natural products, and dietary supplements. These products are readily available for purchase without healthcare provider (HCP) awareness. OTC products that may aid in disease and symptom management are often perceived as safe and efficacious. However, their use, abuse, or misuse may cause adverse events, toxicity, or drug-drug interactions with prescription medications. The primary objective of this study aims to assess if patients taking OTC products have consulted a healthcare provider before purchase. The secondary objective is to determine if there is an association between the frequency of OTC product usage and consulting a healthcare provider.

Methods

Patients that received a new-to-therapy initial consultation, a targeted medication review, or a comprehensive medication review from a single large chain community pharmacy were recruited. The study included patients 18 years or older who have ever taken an OTC product. Participants received a verbal questionnaire to assess their OTC product usage and trends. Patient information was de-identified. Age, gender, and medications were collected for this observational study. Patients were educated on any drug-drug interactions discovered and the importance of consulting an HCP before using OTC products. Data collection started January 18 and ended February 14, 2022. Institutional Review Board approval was granted by the University of Mississippi School of Pharmacy.

Results

There were 107 OTC products taken by 36 participants out of the 58 patients recruited. The average participant age was 65.47 years. Forty-three OTC products were taken with an HCP consultation, while 64 were taken without. Twenty-two daily OTC products were taken by females and five by males with an HCP consultation; 14 and five were taken without. Nine as-needed OTC products were taken by females and three by males with an HCP consultation; 11 and 14 were taken without.

Conclusions

Of the OTC products taken, 59.8% were taken without prior HCP consultation; the majority were supplements and acute treatments. Females were more likely than males to take an OTC product regardless of frequency after consulting with an HCP first.

Plauche, Emily

Assessing clinical outcomes and risk factors for infective endocarditis among patients with Enterococcus faecalis bacteremia

Plauche, Emily - Author[1]; Barber, Katie - Co-Author[2]; Stover Hielscher, Kayla - Co-Author[2]; Wagner, Jamie - Co-Author[2]
[1]University of Mississippi Medical Center, [2]University of Mississippi School of Pharmacy

Background/Purpose

Although *Enterococcus faecalis* is found in the normal gastrointestinal flora, it can cause serious systemic infections such as bacteremia and infective endocarditis (IE). Despite *E. faecalis* being one of the most common organisms to cause IE, there are few studies that have evaluated *E. faecalis* bacteremia and IE in the United States. Studies in other countries have found that approximately one in four patients with *E. faecalis* bacteremia will progress to endocarditis. The purpose of this study is to assess clinical outcomes of patients with *E. faecalis* bacteremia and identify risk factors for infective endocarditis in these patients.

Methods

This single-center, retrospective, case-control study evaluated patients with *E. faecalis* bacteremia admitted to the University of Mississippi Medical Center between June 2012 and May 2021. Patients were included if they were 18 years of age or older, had at least one positive *E. faecalis* blood culture, and received over 48 hours of active treatment against *E. faecalis.* Patients with polymicrobial bloodstream infections and lack of follow up blood cultures were excluded. Patients were separated into two cohorts: those with IE and those without. Patients were included in the IE group if they have a transesophageal echocardiogram (TEE) or transthoracic echocardiogram (TTE) indicative of IE or were treated as presumed IE based on Duke's criteria as documented by a clinician in EPIC. The primary outcome was treatment failure, which was defined as a composite of a failed attempt of normalization of white blood cell count, temperature, and blood cultures within 3 days of starting therapy active against *E. faecalis*. Secondary outcomes included risk factors for IE, in-hospital mortality, and 90-day readmission rate.

Results

Pending and will be described.

Conclusions

Pending and will be described.

Ponder, Ally

Prescribing Patterns and Incidence of Gout Flares in a Veteran Population

Ponder, Ally - Author[1]; Ryan, Tenley - Co-Author[1]; Hoover, Jonathan - Co-Author[1]; Stewart, Kasey - Co-Author[1]
[1]Memphis VA Medical Center

Background/Purpose

Gout is an inflammatory arthritis characterized by hyperuricemia.[1] Urate-lowering therapies, such as allopurinol and febuxostat can decrease uric acid levels and reduce recurrent flares. When initiating urate-lowering therapy, the 2020 Guideline for the Management of Gout published by the American College of Rheumatology recommends continuing concomitant anti-inflammatory prophylaxis with colchicine, non-steroidal anti-inflammatory drugs (NSAIDs), or steroids for three to six months.[1] The purpose of this recommendation is to reduce the risk of acute gout flare upon initiation of urate-lowering therapy.[2] The Memphis Veterans Affairs Medical Center has not assessed the duration of anti-inflammatory prophylaxis after initiating urate-lowering therapy compared to guideline recommendations. The purpose of this study is to determine the incidence of gout flares relative to the duration of anti-inflammatory prophylaxis.

Methods

This study is a retrospective chart review conducted at the Memphis Veterans Affairs Medical Center. All patients initiated on urate-lowering therapy from January 2019 to December 2020 were reviewed. Patients were excluded if they were already on urate-lowering therapy at enrollment, non-compliant, received care from non-VA providers, prescribed urate-lowering therapy for an indication other than gout, or were chronically prescribed non-steroidal anti-inflammatory drugs or corticosteroids at baseline. Included patients were then categorized into two groups based on the duration of anti-inflammatory prophylaxis: anti-inflammatory prophylaxis for less than three months or anti-inflammatory prophylaxis for greater than or equal to three months. The primary outcome is the incidence of gout flare during the first three months following initiation of urate-lowering therapy. Secondary outcomes include the number of gout flares and uric acid levels at three, six, and twelve months. Pending further review of data, descriptive statistics will be used to assess incidences of gout flares following initiation of urate-lowering therapy based on the duration of anti-inflammatory prophylaxis.

Results

Data collection is currently ongoing.

Conclusions

Pending data analysis.

Powers, Kennedy

Evaluation of Electrolyte Management in Adult Patients Receiving EGFR Inhibitors

Powers, Kennedy - Author[1]
[1]Ochsner Health

Background/Purpose

Expression and overexpression of epidermal growth factor receptor (EGFR) is reported in many types of epithelial cancers. Due to the prevalence of EGFR expression, this became a strategic drug target for anti-cancer agents. Cetuximab and panitumumab are among these agents as anti-EGFR monoclonal antibodies and are used for treatment of RAS wild-type metastatic colorectal and head and neck cancers. During clinical trials with these medications, electrolyte abnormalities occurred and cardiac events secondary to these abnormalities have since earned a black box warning for cetuximab, with multiple post-market studies reporting electrolyte abnormalities at upwards of 50%. This study aims to address current practices at outpatient infusion centers at Ochsner Health to determine if providers are adequately monitoring and replacing electrolytes before administration of cetuximab and panitumumab.

Methods

This study will retrospectively evaluate a cohort of patients 18 years or older that received at least one dose of cetuximab or panitumumab between August 1, 2020 and July 31, 2021 at Ochsner Health Outpatient Centers. Exclusion criteria include patients with insufficient medical records defined as missing 75% or more data points. The primary outcome of this study is incidence of electrolyte abnormalities. Secondary outcomes evaluate percentage of patients receiving adequate electrolyte replacement before treatment with the study drugs. Additionally, there will be a subgroup analyzed for incidence of electrolyte abnormalities based on the medication dosing frequency of weekly versus bi-weekly cetuximab dosing versus panitumumab. This study will impact our clinical practice at Ochsner Health to employ quality improvement initiatives and standard procedures for electrolyte monitoring and repletion before administration of these medications.

Results

In progress.

Conclusions

Will be described.

Rhett, Anna

Integrative vs Immersion Introductory Pharmacy Practice Experiences Impact on Student Confidence to Perform Entrustable Professional Activities

Rhett, Anna - Author[1]; Pate, Adam - Co-Author[2]; Jenkins, Anastasia - Co-Author[2]; Brown, Meagan - Co-Author[2]; Montgomery, Natalie - Co-Author[2]; O'Neal, Jonathan - Co-Author[2]; Neal, Sara - Co-Author[2]; Metzger, Robert - Co-Author[2]; Fleming, Laurie - Co-Author[2]
[1]University of Mississippi School of Pharmacy, [2]The University of Mississippi School of Pharmacy

Background/Purpose

Introductory Pharmacy Practice Experiences (IPPEs) are a required component of pharmacy school curriculums and blend knowledge with experience. IPPEs may be integrative or immersion experiences. Students acquire integrative experience hours longitudinally and immersion experience hours consecutively. The University of Mississippi School of Pharmacy (UMSOP) utilizes both formats of IPPE. Students may better apply their education to real-life during integrative experiences; however, there is little information as to which format of IPPE best builds student confidence in their ability to perform Entrustable Professional Activities (EPAs). This study seeks to determine if IPPE format is associated with changes in EPA confidence based on student self-evaluation. Secondarily, this study aims to evaluate preceptor-reported confidence in student EPA abilities and student preference of IPPE type.

Methods

This retrospective study includes the UMSOP Class of 2023. Both students and preceptors submitted evaluations on confidence in student-ability to perform EPAs after each rotation through *e-Value,* an online software program. Confidence was scored on a scale from 1 to 5. Data from *e-Value* evaluations were used to assess student and preceptor confidence in student-abilities. Students were also invited to take a separate survey to gauge student preference in IPPE format. The primary outcome of this study was student-reported confidence in ability to achieve three of the EPA domains: 1) Patient Care Provider, 2) Population Health Promoter, and 3) Information Master. Secondary outcomes were student-reported preference in IPPE format and preceptor-reported confidence in student ability. The outcomes were analyzed using Student's t-test.

Results

Student-reported confidence in EPA achievement in immersion and integrative IPPEs averaged 3.46 and 3.42, respectively ($p>0.05$). Preceptor-reported confidence in immersion and integrative IPPEs averaged 3.68 and 3.37, respectively ($p>0.05$). When surveyed, thirty-five students preferred immersion IPPEs, and eleven preferred integrative IPPEs.

Conclusions

Students reported higher confidence in their abilities to perform specific EPAs after their immersion IPPEs. Similarly, preceptors reported higher confidence in student-abilities after immersion IPPEs. More students reported favoring immersion IPPEs over integrative IPPEs. Given this information, it could be inferred that immersion IPPEs may be a more successful way to promote student and preceptor-confidence in performing EPAs.

Rizo, Eduardo

A comprehensive analysis of risk factors associated with inpatient falls

Rizo, Eduardo - Author[1,2]
[1]University of Tennessee Health Science Center, [2]HCA Healthcare

Background/Purpose

Inpatient falls have a significant impact on a patient's time to recovery and hospital associated costs. The primary objective of this study is to identify the relationship between rates of falls amongst hospitalized patients and the use of inpatient medications associated with falls as identified by The American Geriatrics Society Beers Criteria.

Methods

This is a retrospective study on hospitalized patients over the age of 60 between 1/1/2021 and 12/31/2021. Ventilated patients and patients with a length of stay or fall less than 48 hours after admission were excluded. The information was collected utilizing de-identified data from an external data warehouse of 157 separate facilities. Falls were determined by assessing documented post fall assessments in the medical record. Patients that fell were matched 3:1 with control patients based on demographic data (age, sex, length of stay, and elixhauser comorbidity score). For controls, a pseudo time to fall was assigned based on matching to the case subject. Inpatient medication information was gathered from barcode administration data to assess the use of medications and broken into AHFS medication classes. Statistical analysis was conducted using R and RStudio.

Results

Preliminary results show 6,363 patients who had a fall and 19,089 controls selected who met the inclusion and exclusion criteria. Seven drug classes were identified as statistically significant in increasing an inpatient's rate of falling: angiotensin-converting enzyme inhibitors [odds ratio (OR) 1.22; $p<0.001$], antipsychotics [OR 1.93; $p<0.001$], benzodiazepines [OR 1.57; $p<0.001$], serotonin modulators [OR 1.2; $p<0.001$], selective serotonin-reuptake inhibitors [OR 1.26; $p<0.001$], tricyclics and norepinephrine reuptake inhibitors [OR 1.45; $p<0.001$], and miscellaneous antidepressants [OR 1.54; $p<0.001$].

Conclusions

Hospitalized patients over the age of 60 years old are more likely to fall while in the hospital and taking angiotensin-converting enzyme inhibitors, antipsychotics (aripiprazole, quetiapine, risperidone, haloperidol, etc.), benzodiazepines, serotonin modulators (trazodone, etc.), selective serotonin-reuptake inhibitors, tricyclics and NRIs, or miscellaneous antidepressants (bupropion and mirtazapine). Patients on opiates and diuretics had a significant decrease in rate of falling.

Rizvi, Muzammel

Evaluation of current market central pharmacy inventory management system (CPIMS) and their functionality, efficiency, and cost effectiveness.

Rizvi, Muzammel - Author[1]
[1]LifePoint Health

Background/Purpose

Drug shortages, rising drug costs, and additional clinical services provided by a hospital pharmacy staff impose growing pressures to improve the efficiency of the hospital pharmacy operations. Inventory management systems have helped reduce inventory-related costs in other industries, so it is assumed that an inventory management system in a hospital pharmacy setting should do the same.
While inventory management systems are not new to the healthcare industry, the cost to acquire, implement, support, and maintain systems has increased substantially over the last decade. A CPIMS is an inventory management software that may offer certain logistical optimizations to large health systems. Any CPIMS in the hospital pharmacy setting needs to ensure compatibility with current technologies, minimize inventory-related costs, and improve pharmacy workflows.
The purpose of this project is to determine what CPIMS are available on the market and evaluate each based-on functionality, efficiency, and calculate a return on investment.

Methods

Collect current data on annual inventory turns, drug expenditure, and annual operational expenses across the enterprise. Validate aggregated data to ensure accuracy. Develop a return-on-investment (ROI) assessment to allow organizational leadership to determine feasibility of CPIMS adoption across the enterprise. Evaluate CPIMS acquisition, maintenance, and implementation costs from multiple inventory management vendors for comparative analysis. Analysis of the collected data will also elucidate other facilities' needs around support and/or resources to increase inventory turns, improve contract compliance, and reduce pharmaceutical waste. Best practices for the use of CPIMS within out hospitals will be determined based on the real-world data from five hospitals within the health-system.

Results

Preliminary results determined the current health system vendor to have the greatest ROI with the implementation of their CPIMS product. Further validation of the ROI assessment is underway by using real-world data from the hospitals that have implemented the CPIMS within their hospital.

Conclusions

To Be Determined

Roach, Jonathan

Evaluation of common medication related issues occurring during transition from an acute care hospital to a long term care facility

Roach, Jonathan - Author[1]; Walters, Dana - Co-Author[1]; Gilliland, Traci - Co-Author[1]; Norris, Christopher - Co-Author[2]

[1]Fort Sanders Regional Medical Center, Knoxville, TN, [2]Cardinal Health, Knoxville, TN

Background/Purpose

Transitions of care create a significant opportunity for medication errors or suboptimal therapy to result and may negatively impact patient outcomes, hospital readmissions and/or length of stay. The purpose of this study was to identify the most common transitions of care related issues and the origins of those issues, in order to determine where pharmacy intervention would be most beneficial.

Methods

This project is a retrospective review of patients admitted to our hospital's transitional care unit (TCU) from one of our acute care floors between the months of September 1st, 2021 through December 31st, 2021. Patient records were reviewed for medication errors and omissions and assigned to the following categories: order comment errors, omitted orders, inaccurate timing or duration, omitted medication tapers, omitted labs and other. After identification of errors, an origin was assigned to either: information technology (IT), pharmacy, prescriber or other.

Results

Of the 102 patients analyzed, 36 of them experienced a transitions of care related medication error. A total of 41 errors occurred during the months analyzed (some patients experienced more than one error). Females accounted for slightly more than half of our population (n=60; 58.8%), while men accounted for 41.2% (n=42). The average age of patients admitted was 78.1 years old (range 61 to 100). The most common error seen was omitted orders, which accounted for 41.5% (n=17). Inaccurate timing/duration accounted for 29.3% (n=12), other accounted for 9.8% (n=4), both omitted medication tapers and order comment error accounted for 9.8% (n=4) each, while omitted labs was not observed during the months of data collection. IT error origin was assigned most frequently (n=30; 73.2%). Prescriber origin occurred 6 times, accounting for 14.6%. Pharmacy was assigned to 9.8% (n=4) of errors, while 1 error (2.4%) was assigned to the other category.

Conclusions

Patient transitions of care create numerous opportunities for error to occur, and as highlighted by our study, most frequently lead to omitted medication orders. These medications are often of high importance and underscore the need for pharmacist intervention and information technology (IT) solutions.

Rodriguez, Melinda

Impact of Clinical Pharmacy Services on Code Stroke Outcomes in the Emergency Department

Rodriguez, Melinda - Author[1]; Hoffman, Lindsey - Co-Author[1]
[1]TriStar Summit Medical Center

Background/Purpose

Time is a critical metric for thrombolytic therapy in patients with acute ischemic stroke (AIS) as the benefits of intravenous (IV) alteplase (tissue plasminogen activator [tPA]) decrease with each minute passed. The 2021 AHA/ASA stroke guidelines recommend administration of alteplase within 60 minutes of patient arrival. Multidisciplinary teamwork is encouraged to improve door-to-needle (DTN) time. Pharmacists in the emergency department (ED) are in the optimal position to improve alteplase administration times by assessing patients for contraindications, calculating appropriate doses and assisting in blood pressure control. Studies analyzing the impact of pharmacists in this role are few, however the available evidence has demonstrated improved outcomes with pharmacist involvement. The purpose of this study is to determine the impact of emergency medicine clinical pharmacists on DTN times and clinical outcomes in patients with AIS treated with alteplase in the emergency department.

Methods

This study is a retrospective, single center, cohort study of patients who received alteplase in the ED between January 2016 and November 2020. Study candidates were identified via pharmacy surveillance software. Patients 18 years or older who received alteplase in the ED for suspected or confirmed AIS were included. Exclusion criteria involved patients who did not receive alteplase in the ED. The primary outcome was alteplase door-to-needle (DTN) administration times with pharmacist intervention versus without pharmacist intervention. Secondary outcomes include length of hospital stay, discharge disposition, change in NIHSS from baseline, complications from alteplase administration, and death.

Results

Results to be described.

Conclusions

Conclusion to be described.

Ross, Scott

Effect of Geographical Location on HPV Vaccination in Mississippi

Ross, Scott - Author[1]; Lewis, Natasha - Co-Author[1]; Lambert, Anna K - Co-Author[1]
[1]Mississippi State Department of Health

Background/Purpose

The purpose of this study is to determine the effect of geographic location on the rates of human papillomavirus (HPV) vaccination in Mississippi youth.

Methods

The study population is comprised of Mississippi youth 11-17 years of age who received the HPV vaccine between 2015-2019. We are using descriptive and inferential analytic techniques to describe and examine vaccination data from the Mississippi Immunization Information eXchange (MIIX) database. We will conduct a descriptive analysis of HPV vaccination completion by geographic location of youth residence, provider location, and the 9-district health department structure. We will also conduct multi-level logistic regression analyses to determine HPV 'vaccination gaps' using individual youth characteristics (including vaccination type), provider characteristics, and geographic location. We will apply survival analysis techniques to determine which youth complete the HPV series timely.

Results

Between 2015-2019, 251,854 HPV vaccinations were administered to 146,118 youth between the ages of 11-17 years for whom we had information on county of residence. Preliminary results revealed the most common providers of HPV vaccinations were pediatricians, county health departments, primary/family care providers, and federally qualified health centers (FQHCs). Additional multi-level regression analyses will be conducted to better assess completion of vaccination series and vaccination by provider type and youth residence.

Conclusions

Together, these data will help the state understand the context of HPV vaccination gaps and focus its efforts on HPV vaccination campaigns.

Rowenhorst, Sarah

Combination of Entresto and SGLT-2 Inhibitors in Reducing Heart Failure Exacerbations and Cardiovascular Death in Patients with HFrEF

Rowenhorst, Sarah - Author[1]
[1]Ascension Saint Thomas Hospital Midtown

Background/Purpose

Heart failure is a significant cause of morbidity and mortality in the United States. After a heart failure exacerbation requiring hospitalization, mortality is estimated to be 13% at thirty days, 36% at one year, and 68% at five years. The foundation of heart failure treatment recommended by the ACCF/AHA heart failure guidelines is guideline-directed medical therapy at target, or maximally tolerated, doses in order to reduce morbidity, mortality, hospitalizations, and improve symptoms.

A 2021 JACC update to the heart failure guidelines revealed that the preferred renin-angiotensin antagonist in HFrEF has shifted from an ACEi or ARB to sacubitril/valsartan. Dapagliflozin, an SGLT-2 inhibitor originally indicated for treatment of type 2 diabetes, was FDA-approved in 2020 to reduce mortality and hospitalizations in patients with HFrEF with or without type 2 diabetes. There is limited data regarding the combined use of these two groundbreaking treatments as dapagliflozin was just recently approved to treat heart failure. The goal of this study is to examine the combined use of sacubitril/valsartan and an SGLT-2 inhibitor in reducing heart failure exacerbations and cardiovascular death.

Methods

This was a multicenter, retrospective Cerner and Athena chart review study of patients diagnosed with HFrEF taking sacubitril/valsartan with or without an SGLT-2 inhibitor identified by a visit to an Ascension Medical Group or Saint Thomas Heart facility between July 1, 2020 and July 31, 2021. To be included, patients needed to be at least 18 years old and have taken sacubitril/valsartan with or without an SGLT-2 inhibitor for at least three months. Patients who were pregnant were excluded. The primary outcome was heart failure exacerbation requiring hospitalization at an Ascension medical facility in Tennessee, identified by a chart review of provider notes, while actively filling sacubitril/valsartan with or without an SGLT-2 inhibitor at a pharmacy. Secondary outcomes included death from cardiovascular causes and renal function.

Results

To be described.

Conclusions

To be described.

Rowland, Kelsey

Effect of Baricitinib on Overall Length of Stay in Hospitalized Patients with SARS-CoV-2 at a Large Tertiary Care Community Hospital

Rowland, Kelsey - Author[1]; Bynum, Ashley - Co-Author[1]
[1]Jackson-Madison County General Hospital

Background/Purpose

In November 2020, the U.S. Food and Drug Administration (FDA) granted an Emergency Use Authorization (EUA) for baricitinib as a potential therapeutic option for the treatment of severe Coronavirus Disease 2019 (COVID-19) in hospitalized patients. Originally, the EUA allowed for use only in combination with remdesivir for patients requiring supplemental oxygen, invasive mechanical ventilation, or extracorporeal membrane oxygenation (ECMO). In July 2021, this EUA was expanded to allow for the use of baricitinib without remdesivir based on data from the ACTT-2 clinical trial. Baricitinib inhibits the transmission of signals from cytokine and growth factor-receptors to block important cellular processes like hematopoiesis and immune cell function. The purpose of this study was to evaluate the efficacy and safety of baricitnib in patients hospitalized with SARS-CoV-2 in terms of length of stay, mortality, end organ support, clinical improvement, and adverse effects.

Methods

Patients admitted to Jackson-Madison County General Hospital with a positive SARS-COV-2 PCR result and who received baricitinib for at least one dose were evaluated for inclusion in this retrospective chart review. Baseline and disease-specific data were collected including demographics, comorbidities, date of symptom onset, medications administered, use of convalescent plasma, oxygen support requirements, progression to renal replacement therapy (RRT), progression to mechanical ventilation, adverse events from therapy, length of stay, 30-day readmission, and mortality. Patients were excluded from the study if they met any of the following criteria: age less than 18 years old, glomerular filtration rate (GFR) less than 15 mL/min or on RRT, neutropenia, lymphopenia, active tuberculosis (TB), or positive pregnancy test. All data was recorded without patient identifiers and maintained confidentially. This study was approved by the local Institutional Review Board.

Results

To be described

Conclusions

To be described

Rupert, Creontia

Evaluation of Ischemic and Bleeding Risk of Single Versus Dual-Antiplatelet Therapy after an Initial Acute Ischemic Stroke

Rupert, Creontia - Author[1]; Mitchell, Jonathan - Co-Author[1]; Stolz, Judson - Co-Author[1]; Murphy, William - Co-Author[1]; Money, Taylor - Co-Author[1]
[1]Baptist Memorial Hospital - DeSoto

Background/Purpose

Antiplatelet therapy is recommended for long-term secondary stroke prevention to reduce the risk of recurrent stroke and other thromboembolic events. Dual antiplatelet therapy (DAPT) may provide additional stroke risk reduction over single antiplatelet therapy (SAPT); however, clinical trials testing DAPT for secondary prevention have not shown a consistent reduction in recurrent stroke and bleeding. We retrospectively studied SAPT versus DAPT to determine the risk of recurrence of stroke, thromboembolic events, mortality, and major bleeding.

Methods

A multicentered retrospective IRB-approved cohort study of patients at a community hospital from January 1, 2015, to September 30, 2020, with a magnetic resonance Imaging (MRI) confirmed initial diagnosis of acute ischemic stroke (AIS) discharged on SAPT or DAPT. SAPT is defined as the use of aspirin, clopidogrel, or ticagrelor while DAPT is defined as the use of aspirin plus ticagrelor or clopidogrel. The primary outcome is to assess the recurrence of MRI confirmed AIS within one year of discharge from initial MRI confirmed AIS. Secondary outcomes include evaluation of the incidences of MRI confirmed AIS at 3 and 6 months and incidences of major bleeding, mortality, and thromboembolic events at 3, 6, and 12 months.

Results

Results to be described.

Conclusions

Results to be described.

Sagely-Patterson, Hunter

Family Impact on Pain Perception During Hospitalization due to Trauma-Related Fractures

Sagely-Patterson, Hunter - Author[1]
[1]TriStar Skyline Medical Center

Background/Purpose

Pain, as we know, is inherently subjective with vast variation in how it is reported, reacted to, and treated by patients and physicians. Many factors, including biological, physiological, and social factors can influence pain. Current guidelines recommend multimodal pharmacotherapy to spare and/or minimize opioids, improve pain control, and patient centered outcomes. Studies report prevention, assessment, and treatment are persistent challenges for clinicians. There are few studies that evaluate the impact family may have on patients with chronic pain but support the role they provide. More so, even fewer studies are available to support their role in acute pain. Visitation from families during trauma-related hospitalizations has been shown to help improve recovery, but could visitors be causing increased use of opioid medications and incidences of delirium? In the beginning of 2020, COVID-19 flooded hospitals across the nation. During the peak of admissions, family visitations were restricted. This provided a unique opportunity to evaluate the impact families have on opioid use in those admitted with trauma-related fractures. Six months of consecutive data has been collected to help evaluate the primary endpoint – does family visitation increase the use of opioid medications in patients admitted with trauma-related fractures during hospitalizations?

Methods

A retrospective study was conducted evaluating the use of as needed opioids among patients admitted for trauma-related fractures, comparing open visitation versus restricted visitation. From April 2020 through September 2020, hospital visitation has cycled through open visitation, restricted visitation, and limited visitation. During the pre-specified time periods, compiled data consisting of a total number of trauma-related fracture admissions, amount of prescribed as needed opioid medications and received doses, total morphine equivalences, and nurse-driven pain assessments will be reviewed in order to report our findings. Additionally, secondary outcomes investigated the incidences of delirium and chemical reversal by assessing the utilization of pharmacologic agents after administration of opioids, i.e., anti-psychotics and naloxone.

Results

Under review.

Conclusions

Pending reviewal of results.

Sawyer, Victoria

Establishing a Relationship Between Previous or Concurrent Clostridium difficile Infection on Rates of Immunotherapy-Induced Colitis and Efficacy of Anti-Cancer Treatment in Patients Receiving Immunotherapy

Sawyer, Victoria - Author[1]
[1]Ochsner Health

Background/Purpose

Immunotherapy is a biologic cancer treatment that engages one's immune system to fight the disease. There are several types of immunotherapies, one being immune checkpoint inhibitors (ICIs). ICIs, specifically programmed death-1/programmed death-ligand 1 (PD-1/PD-L1), work by leveraging the patient's own immune system to attack cancer cells via various pathways. ICIs reset the counterbalancing influences that regulate T cell cytotoxicity against tumors. Increasing immune activity activates autoreactive T cells causing a new type of autoimmune reaction, known as immune-related adverse events (irAEs). One of the most common irAEs is colitis. There is evidence suggesting a potential association between immunotherapy induced colitis and clinical benefit. Also, some studies have shown that increased gut microbiome diversity has been linked to improved cancer outcomes when PD-1/PD-L1 therapies are used. One factor that can negatively impact gut microbiomes includes the history or presence of Clostridium difficile infection (CDI). Immunotherapy induced colitis and the gut microbiome, particularly Clostridium difficile, modulates response to anti PD-1/PD-L1 immunotherapy; however, there is limited retrospective data regarding the relationship between the two. The objective of this study is to evaluate a relationship between previous or concurrent CDI on rates of immunotherapy-induced colitis and efficacy of anti-cancer treatment in patients receiving immunotherapy across Ochsner Health.

Methods

This study is a retrospective chart review of patients 18 years or older receiving single agent immunotherapy with at least one dose of anti PD-1/PD-L1 based therapy. The electronic health record EPIC® was utilized to identify patients that received anti PD-1/PD-L1 based therapy from January 2018 to December 2020, with at least 1 year follow up through December 2021. Baseline characteristics and data regarding documented cancer diagnosis, duration of PD-1/PD-L1 based therapy, previous/active CDI, and number of episodes of CDIs will be collected. The primary outcome includes time-to-treatment failure (TTF), defined as time interval from start of change of therapy or death. The secondary outcomes include incidence of immunotherapy induced colitis and overall survival (OS), defined as time from randomization to death from any cause.

Results

Results will be described.

Conclusions

Conclusions will be described upon availability of results.

Schotting, Paul

Management of End-Stage Kidney Disease Patients Receiving Emergency Only Hemodialysis

Schotting, Paul - Author[1]; Hudson, Joanna Q. - Co-Author[2,1]; Negrete, Ana - Co-Author[1]
[1]Methodist University Hospital, [2]University of Tennessee Health Science Center

Background/Purpose

According to 2020 data there are between 5,500 and 8,857 undocumented immigrants with kidney failure within the U.S. Undocumented immigrants were not included in the Social Security Amendment of 1972 which mandated Medicare coverage for all end-stage kidney disease (ESKD) patients on hemodialysis (HD) thus forcing these patients to use local emergency departments (EDs) for HD. Additionally, individuals who suffer from mental illness may lose privileges at HD centers and be forced to obtain HD at EDs. This creates a situation where patients may not receive the standard of care for ESKD and associated secondary complications as in outpatient HD centers. Methodist Le Bonheur Healthcare serves ESKD patients dependent upon the ED for HD. The purpose of this study is to evaluate course of care in patients receiving emergency only HD to ESKD patients receiving care in outpatient centers based on the United States Renal Data System (USRDS) by determining rates of inpatient admissions for anemia, electrolyte imbalances, uremia causing altered mental status, and fluid overload as well as overall mortality, rates of catheter port changes, bacteremia, blood transfusions and supportive care for disease states secondary to ESKD.

Methods

A retrospective, single-center descriptive analysis of patients receiving long-term HD via the ED was conducted. Patients whose primary reason for the ED visit was HD or complications secondary to lack of HD at least 26 times over a one-year period were included. Patients were evaluated per ED visit for HD to collect pertinent laboratory information and events. Events were defined as irregular ED visits due to anemia, electrolyte abnormalities, uremia causing altered mental status, and fluid overload as well as dialysis access complications and bacteremia. Other data points included the need for vasopressor support, hyperkalemia treatments, administration of electrolytes, intravenous iron supplementation, erythropoietin stimulating agents, and blood transfusions.

Results

Results are currently not available, but data collection and evaluation are ongoing. Currently, 5 of the 7 patients included are undocumented immigrants. The other 2 are patients unable to continue receiving outpatient HD due to mental health issues.

Conclusions

Conclusions to follow pending results.

Scott, Brittany

An examination of gastrointestinal stress ulcer prophylaxis in critically ill pediatric patients

Scott, Brittany - Author[1]; Baker, Amanda - Co-Author[2]; Layes, Clint - Co-Author[3]; Baker, Jessicca - Co-Author[2]

[1]University of Arkansas School for Medical Sciences/Arkansas Children's Hospital, [2]Arkansas Children's Hospital, [3]Arkansa Children's Hospital

Background/Purpose

Critically ill patients are at an increased risk of developing gastrointestinal (GI) stress ulcers in the upper digestive tract due to the physiological stress caused by trauma and/or extended hospital stay. Proton pump inhibitors (PPI) and histamine type 2 receptor (H_2) antagonists are widely used for GI stress ulcer prophylaxis, although they may put patients at an increased risk for developing bleedings, infections, and fractures. The use of GI stress ulcer prophylaxis is often used without clear indication and/or continued once the risk factor(s) have resolved. This study aimed to determine if there was an overuse of GI stress ulcer prophylaxis in critically ill patients at Arkansas Children's Hospital, with the hope to lay the foundation for possible development and implementation of a standardized initiation and de-escalation protocol.

Methods

This was a retrospective chart review analyzing the use of GI stress ulcer prophylaxis in pediatric patients admitted to the CVICU and PICU at Arkansas Children's Hospital from September 1, 2020 to September 30, 2021. During this time period, 1046 patients were identified as candidates for analysis. 292 number of patients were excluded from study due to being on the medication prior to admission or for being treated for a GI bleed, and 754 number of patients were included for data analysis. Data collection included unit, weight, sex, age, admission reason, indication for GI stress ulcer prophylaxis, the use of a proton pump inhibitor and/or H_2 antagonist including route of administration and dosage, presence of vasopressor therapy, NPO status, and date of discontinuation. This study was approved by the UAMS Institutional Review Board.

Results

Results will be described.

Conclusions

The conclusion of this study is pending data analysis.

Seeto, Joshua

Impact on clinical outcomes for patients with diabetes treated in a pharmacist-managed ambulatory care clinic

Seeto, Joshua - Author[1]
[1]Regional One Health

Background/Purpose

Diabetes mellitus is a chronic disease state that presents a significant problem worldwide. If left untreated, diabetes can precipitate microvascular and macrovascular complications, leading to increased morbidity and mortality. While numerous pharmacological treatment options are available, it is often a challenge for patients to attain therapeutic goals due to a plethora of patient-specific factors including complex regimens, medication side effects, financial burden, and health literacy. Addition of a pharmacist in a multidisciplinary team to help manage diabetes has shown improvement in patient adherence and improved clinical outcomes, leading to significant reductions in A1c, improved cardiovascular biomarkers, and reduced hospitalizations. This study aims to determine the impact of a pharmacist-managed HTN/DM clinic on lowering A1c in patients with type 2 diabetes.

Methods

This was a single-center, retrospective cohort study performed at the Regional One Health Outpatient Clinics. Patients referred to the pharmacist-managed HTN/DM clinic between 2019-2022 with a diagnosis of uncontrolled type 2 diabetes (A1c ≥ 8%) were included. A total of 100 patients were randomly selected to participate in the study. Patients were excluded if they met the following criteria: ≤ 18 years old, type 1 diabetes, hospice/SNF, incarcerated, pregnancy, CKD Stage IV or V. The following data was collected: demographic (age, sex, ethnicity, race), comorbidities, number of clinic visits attended and missed, body mass index, blood pressure, in-office blood glucose, diabetes medications, and pharmacist interventions. The primary outcome evaluated in this study was a reduction in A1c from baseline for patients referred to the pharmacist-managed HTN/DM clinic. Secondary outcomes that were evaluated include percent of patients who achieved an A1c < 8%, reduction of in-office blood glucose levels and blood pressure.

Results

Results will be described.

Conclusions

Pending data analysis.

Sewell, Jenna

Evaluation of Therapeutic Interchanges Implemented at Ochsner Health in 2020-2021

Sewell, Jenna - Author[1]; Nguyen, Anh - Co-Author[1]; Prabhu, Emily - Co-Author[1]; Supan, Elisa - Co-Author[1]
[1]Ochsner Health

Background/Purpose

A therapeutic interchange is the exchange of therapeutic alternatives according to approved formulary guidelines. Standardizing a formulary to one or more products within a therapeutic class allows for more efficient management of inventories, decreased risk of medication errors, and potential cost savings. The purpose of this project is to retrospectively evaluate the formulary compliance of 5 inpatient therapeutic interchanges implemented through the therapeutic interchange program at Ochsner Health (OH), a health system with multiple sites and integration models.

Methods

The interchanges were approved through the System Pharmacy and Therapeutics (P&T) Committee and implemented between January 2020 and August 2021. The primary outcome was overall system compliance rate associated with the therapeutic interchanges at 6 months past the go live date. The secondary outcomes were factors that may affect compliance: Documentation in formulary management tool, Electronic Health Record (EHR) build, and use of the Change Management Advisory Committee (CMAC) to develop and distribute education.

Results

Following data collection and analysis, the system compliance rate was 98.2% for all the therapeutic interchanges, 99.6% for the angiotensin-converting enzyme (ACE) inhibitors, 97.8% for the angiotensin II receptor blockers (ARBs), 99.6% for the alpha blockers, 100% for the dipeptidyl peptidase IV (DPP-IV) inhibitors, and 94.8% for the calcium supplements. When evaluating factors that may affect therapeutic interchange compliance, it was discovered that most sites were compliant based on purchase history (ACE inhibitors 100%, ARBs 100%, alpha blocker 98.4%, DPP-IV inhibitors 100%, calcium supplements 100%), 71.8% of the medications were updated properly in the formulary management tool,100% of the medications had the appropriate EHR build, and the CMAC was used effectively to provide education for all 5 therapeutic interchanges studied.

Conclusions

Formulary compliance was 98.2% for all therapeutic interchanges. An evaluation of the factors that affect compliance revealed opportunities to improve the therapeutic interchange program including refining purchases and updating the formulary management tool. Results will be used to increase efficiency associated with the execution of future therapeutic interchanges.

Simmons, Austin

Can an AI chatbot replace the role of pharmacists in answering medication questions?

Simmons, Austin - Author[1]
[1]Lipscomb University College of Pharmacy and Health Sciences

Background/Purpose

As the increasing burden of high patient acuity continues to impact all aspects of healthcare delivery, our healthcare providers are in desperate need of access to quality evidence-based medicine. From an article published in Athenahealth in late 2018, Chris Hayhurst wrote that more than 40% of physicians experiencing burnout are lacking the necessary tools, resources, and latitude to provide high-quality of care for their patients.[1] Also in 2018, IBM decided to intervene and introduce Watson Assistant (WA) integrated with Micromedex so they could combat the lack of access to evidence-based medicine.

Methods

In 2020, a study published in JAMIA Open examined the ability for Micromedex with WA to correctly map a user's query to the appropriate content.[2] Two subject matter experts (SMEs) agreed that intent mapping occurred in 247 of 400 queries (62%).[2] What we would like to know is how well WA could accurately answer these queries to give physicians another reliable tool to improve patient care. Therefore, we propose a user-centered design evaluation study to compare the accuracy, completeness, safety, and usefulness of WA's responses to drug-related queries with those of an experienced pharmacist. We will do this by pooling clinical questions formulated by volunteers then dispersing them to a group of pharmacists to record their responses while another team will record the responses generated by WA. We hypothesize that WA's answers will be equivalent to those of an experienced pharmacist. For a sub-hypothesis, we will see the effectiveness of WA's answers become inferior to a pharmacist's answered question as the complexity increases.

Results

Results will be described once they become available and have been appropriately studied.

Conclusions

Conclusions will be described once they become available and have been appropriately studied.

Smith, Allison

Evaluation of Meropenem Use in an Intensive Care Unit at a 255-bed Community Hospital

Smith, Allison - Author[1]; Gugkaeva, Zina - Co-Author[2]; McElroy, Laura - Co-Author[2]; Hinson, Elizabeth - Co-Author[2]; Binkley, Jeff - Co-Author[2]
[1]Maury Regional Medical Center, [2]Maury Regional Medical Center

Background/Purpose

Objective: To evaluate inappropriate use of meropenem in a community hospital ICU

Antimicrobial resistance has become a major public health challenge. Carbapenems are broad-spectrum antibiotics that are reserved for serious infections caused by extended-spectrum beta lactamase bacteria. The purpose of this study is to evaluate the use of meropenem in the intensive care unit at a 255- bed community hospital.

Methods

This retrospective cohort study evaluates all patients who received meropenem in the critical care unit at Maury Regional Medical Center (MRMC) between July 1, 2020 and June 30, 2021. Exclusion criteria included receipt of meropenem in non-critical areas, and patient expiration within 48 hours of meropenem initiation. Data was retrieved from the electronic health record and includes prior IV antibiotic use before starting a carbapenem, admission date to ICU, timing of first meropenem dose, antimicrobial treatment, and the length of antimicrobial treatment. The primary outcome is the percentage of patients without history or proven ESBL who are continued on meropenem for longer than 48 hours. Secondary outcomes include total length of meropenem therapy if not de-escalated within 48 hours, identification of the most common organisms in the ICU, and the percentage of identified pathogens in study population that are sensitive to non-carbapenem beta-lactam antibiotics. This study was approved by the MRMC Institutional Review Board.

Results

Preliminary results:

26.7% of patients who met inclusion criteria were continued on meropenem for greater than 48 hours without a history or present ESBL indication. The longest duration on meropenem was 13 days. The most frequent time patients were continued was 3 days. The most common organisms isolated from cultures among patients included were proteus, e coli, and klebsiella (34%). The percentage of identified organisms that were sensitive to non-carbapenem beta-lactam antibiotics was 71.4%.

Conclusions

The results of this study showed that there are a portion of patients being continued inappropriately on meropenem in the ICU. The most common duration of treatment was 3 days, which was a day longer than the exclusion limit. This study also found that most of the organisms were sensitive to a non-carbapenem antibiotic.

Smith, Daniel

Use of phenobarbital within AUDIT-PC risk stratification protocol for treatment of alcohol withdrawal

Smith, Daniel - Author[1]; Wright, Michael - Co-Author[1]; Pouliot, Jonathon - Co-Author[1]
[1]Williamson Medical Center

Background/Purpose

Excessive alcohol use accounts for more than 95,000 deaths in the United States each year. Current guidelines published by the American Society of Addiction Medicine recommend benzodiazepines as first-line treatment in reducing signs and symptoms of withdrawal, including seizure and delirium tremens. Phenobarbital is recommended as an adjunct treatment to benzodiazepines or when benzodiazepines are contraindicated. Prophylactic phenobarbital monotherapy has been shown to be a safe and effective treatment strategy for alcohol withdrawal. The objective of this study is to evaluate the use of a low-dose phenobarbital alcohol withdrawal protocol using AUDIT-PC risk stratification in a community hospital setting.

Methods

This study is a single-center, retrospective cohort with a historical control. Data will be compared between subjects who received phenobarbital and those who did not during the study period. Patients in the control group will consist of patients who received benzodiazepines via the CIWA protocol before the implementation of the updated alcohol withdrawal protocol. The protocol will follow a regimen of oral fixed-dose phenobarbital following appropriate AUDIT-PC evaluation and assessment of patient history of alcohol consumption and withdrawal symptoms. The primary outcome measure will be hospital length of stay. Secondary outcomes include intensive care unit length of stay, incidence of agitation, incidence of respiratory depression, hospital readmission within 30 days, inpatient mortality, total amount of lorazepam milligram equivalents administered in each group, total amount of phenobarbital administered in each group, and incidence of mechanical ventilation.

Results

Results will be described

Conclusions

Pending results

Sosinski, Laura

Implementation of nephrotoxin injury negated by just in time action (NINJA): A quality improvement project to reduce acute kidney injury (AKI) at a pediatric oncology hospital

Sosinski, Laura - Author[1]; Robertson, Jennifer - Co-Author[1]; Hughes, Kristen - Co-Author[1]; Jacobs, Timothy - Co-Author[1]; Trone, Deni - Co-Author[1]; Hoffman, James - Co-Author[1]
[1]St. Jude Children's Research Hospital

Background/Purpose

Nephrotoxin Injury Negated by Just-in-Time Action (NINJA) is an indicator that assists healthcare providers recognize early acute kidney injury (AKI) and prevent harm from nephrotoxic medications. AKI is defined by the Kidney Disease Improving Global Outcomes (KDIGO) guidelines as an increase in serum creatinine (SCr) by >/= 0.3 mg/dl in 48 hours or an increase by at least 1.5 times the baseline. To meet NINJA criteria a patient must meet KDIGO guidelines and be on 3 days or more of an aminoglycoside or 3 nephrotoxin medications. The NINJA indicator has been successfully implemented in other children's hospitals, including pediatric oncology and hematopoietic stem cell transplant patients. However, these populations have not been analyzed independently. The primary objective of this study is to identify the rate of AKI in a pediatric hematology/oncology population. The NINJA indicator will be implemented and followed to determine if its execution lowers AKI in pediatric hematology/oncology patients.

Methods

The Institute for Healthcare's Model for Improvement framework was used for this project. A retrospective chart review was completed from January 1- December 31, 2021 to obtain the hospital's baseline AKI rate. For the implementation of the NINJA indicator, patients were identified through the institution's patient safety tracking dashboard and an electronic health record report. The institution's dashboard criteria fires for an increase in SCr by >/= 0.3 mg/dL or 1.5 times the baseline with exposure to a nephrotoxin on the NINJA list. The electronic report will identify patients who meet NINJA criteria. Clinical Pharmacy Specialists (CPS) receive an electronic form via email to complete when patients meet either of the indicators. Forms are identical; however, responses are kept separate based upon alerting criteria.

Results

The rate of AKI is expressed per 1000 inpatient admissions and outpatient visits. The baseline inpatient AKI rate was 32.9, while the outpatient rate was 3.5. Leukemia/Lymphoma service patients had the highest AKI rates and nephrotoxin exposures. The 3 nephrotoxins responsible for most exposures were methotrexate, cisplatin, and vancomycin. The following results are preliminary.

Conclusions

Final conclusions will be presented after evaluation of the forms completed by CPS.

Sparkman, Abby

Impact of medication access through a charitable medication distributor on glycemic control among uninsured patients with type 2 diabetes

Sparkman, Abby - Author[1]; Smith, Priscilla - Co-Author[1]; McCormack, Tim - Co-Author[1]; Hughes, Jonathan - Co-Author[2]; Campbell, Tavajay - Co-Author[2]; Blackburn, Hillary - Co-Author[3]
[1]Saint Thomas Rutherford Hospital, [2]Ascension Medical Group, [3]Dispensary of Hope

Background/Purpose

With socioeconomic forces contributing to major limitations in the treatment of type 2 diabetes mellitus (T2DM) in America, it is pertinent to determine ways to provide more affordable care. The Dispensary of Hope (DOH), a charitable medication distributor, provides nationwide access to medications. The purpose of this study is to examine the efficacy of donated insulin products on the treatment of T2DM and assess the impact the DOH has on medication access for uninsured patients.

Methods

This was a multicenter, retrospective chart review study of patients who were seen at Ascension Medical Group clinics for the treatment of their newly established T2DM diagnosis, and were prescribed insulin therapy between March 2020 and August 2021. Eligible participants were uninsured patients at least 18 years old with a baseline A1c >9% who received insulin therapy from the DOH for the treatment of uncontrolled T2DM. A retrospective chart review was conducted for all study participants. The primary outcome was the change from baseline A1c in insulin treatment-naive patients. Secondary outcomes include percentage of patients achieving A1c <9%, patient adherence and cost avoidance associated with uncontrolled T2DM. Paired student t-tests were used to analyze the primary and secondary outcomes, and chi squared tests were implemented for the nominal variables.

Results

Out of 38 charts reviewed, 22 participants were included in this study. The average baseline A1c at insulin initiation was 11.2%, whereas the average A1c at 3 months was 8.9% followed by an average of 8.8% at 6 months. The change in A1c from baseline to 6 months was -2.5%, and 50% of the participants were able to achieve an A1c of less than 9% by 6 months.

Conclusions

Preliminary data suggests a statistically significant impact of insulin therapy on A1c. Making insulin therapy affordable to uninsured patients allows for better glycemic control and clinical outcomes. Although cost avoidance and patient adherence outcomes are still being evaluated, there is expected to be a significant cost benefit due to a reduction in hospitalizations and emergency room visits.

Starry, Timothy

Evaluating the efficacy of thromboprophylaxis based on risk stratification in patients with multiple myeloma treated with either lenalidomide or pomalidomide

Starry, Timothy - Author[1]; Quesenberry, Alexander - Co-Author[1]; Roma, Glenn - Co-Author[1]; Alley, Hannah - Co-Author[1]
[1]Baptist Cancer Center

Background/Purpose

The immunomodulatory agents, such as lenalidomide, pomalidomide, and thalidomide, form the backbone for first line treatment of multiple myeloma as well as for relapsed or refractory disease. These agents all have black box warnings for their increased risk of venous thromboembolism (VTE) and have recommendations for thromboprophylaxis. Guidelines recommend using aspirin daily as prophylaxis for low-risk patients and using one of the following agents at prophylactic dosages for high-risk patients: enoxaparin, rivaroxaban, apixaban, fondaparinux, or warfarin. Current literature is lacking when looking at the effectiveness of aspirin for preventing VTE in low-risk patients. The purpose of this study is to further evaluate the efficacy of prophylactic aspirin in preventing VTE for low-risk multiple myeloma patients treated with either lenalidomide or pomalidomide.

Methods

This retrospective study identified patients being treated at Baptist Cancer Center for multiple myeloma and on either lenalidomide or pomalidomide. The patients were then stratified by risk for developing a VTE, either low-risk or high-risk, by use of the SAVED criteria. The primary outcome for this study was the incidence of VTE within the first year of treatment in low-risk multiple myeloma patients being treated with either lenalidomide or pomalidomide and on prophylactic aspirin compared to low-risk patients on no thromboprophylaxis and low-risk patients on thromboprophylaxis other than aspirin.

Results

Results are pending and will be later described.

Conclusions

Conclusions are pending and will be later described.

Steely, Sarah

Utilization of bupivacaine plus liposomal bupivacaine pectoral (PECS) I and II fascial plane blocks for pain management in electrophysiology device placement procedures

Steely, Sarah - Author[1]; Nair, Devi - Co-Author[1]; Davis, Andrea - Co-Author[1]
[1]St. Bernards Medical Center

Background/Purpose

Oral and intravenous opioids have traditionally been used to achieve intra-operative and post-operative analgesia in electrophysiology device placement procedures. Opioids are associated with significant adverse effects and carry the potential for misuse and dependence. The opioid epidemic was declared a national public health emergency in 2017. Therefore, the implementation of alternative pain management strategies may help reduce opioid usage. The purpose of this study is to determine the effect of bupivacaine plus liposomal bupivacaine PECS I and II fascial plane blocks on post-operative 8-hour opioid utilization following electrophysiology device placement procedures.

Methods

This study is a retrospective chart review. Electronic medical records will be used to identify patients who had a permanent pacemaker or implantable cardioverter defibrillator placed by the electrophysiologist researcher in 2019 or 2021. The 2019 cohort will serve as the control group, receiving standard intra-operative opioid-based systemic analgesia and local anesthesia with bupivacaine 0.25%. The 2021 cohort will serve as the intervention group, with a PECS I and II fascial plane block utilizing a 2:1 ratio of liposomal bupivacaine and bupivacaine 0.5% (in addition to standard intra-operative analgesia) as the intervention. The primary outcome is post-operative opioid utilization in morphine milliequivalents (MME) at 8 hours. Secondary outcomes include mean pain scores at 1, 3, 5 hours and immediately prior to discharge; proportion of patients with complaints of pain at two-week follow-up visit; inpatient admissions, number of calls to cardiology clinic, and cardiology clinic visits within 30 days; time to first post-operative opioid dose; time to discharge; respiratory depression requiring naloxone administration; proportion of patients opioid-free in post-operative period; and total MME prescribed at discharge. Continuous data will be analyzed using an unpaired t-test and differences in proportions with the chi-squared test. A confidence interval of 95% and a p-value ≤ 0.05 will be considered statistically significant.

Results

Preliminary data collection has resulted in a total of 310 patients included in this analysis; results are pending.

Conclusions

Pending.

Stefanos, Sylvia

Assessing Clinical Cure of Empiric Piperacillin-Tazobactam for ESBL Urinary Tract Infections (ACCEPT – UTI)

Stefanos, Sylvia - Author[1]; Sakaan, Sami - Co-Author[1]; Samarin, Michael - Co-Author[1]; Gelfand, Michael S. - Co-Author[1]; Hobbs, Athena L.V. - Co-Author[1]
[1]Methodist University Hospital

Background/Purpose

Gram-negative bacteria that produce extended spectrum beta-lactamase (ESBL) enzymes present a serious threat to public health. Carbapenems are generally accepted as the drug class of choice for ESBL infections, but over-utilization risks the development of carbapenem resistant organisms. While literature supports use of carbapenems over piperacillin-tazobactam for ESBL bacteremia, data is limited regarding the use of piperacillin-tazobactam for ESBL urinary tract infections (UTIs). The objective of this study is to determine if patients empirically treated with piperacillin-tazobactam versus carbapenems for ESBL UTIs have similar outcomes.

Methods

This study was a retrospective, non-inferiority analysis of adult patients admitted to the Methodist Le Bonheur Healthcare system from November 1, 2018 to June 30, 2021. Patients with urinary symptoms or leukocytosis, a urine culture positive for an ESBL, and who received either a carbapenem or piperacillin-tazobactam empirically for at least 48 hours were included. The primary outcome was clinical success within 48 hours defined as fever defervescence (T < 38 °C), resolution of symptoms, and the absence of readmission for an ESBL UTI within 6 months. Secondary outcomes included resolution of leukocytosis (WBC < 12 x10^3/µL), hospital length of stay (LOS), and 30-day mortality.

Results

A total of 116 patients were included with 60 (52%) patients in the piperacillin-tazobactam group and 56 (48%) patients in the carbapenem group. The patients included were predominantly female (62%) and Caucasian (57%) with a median (IQR) age of 70 (56, 80) years. Baseline characteristics were similar, with *E. coli* being the predominant pathogen (n=92 [79%]). A total of 78 patients were included in the primary outcome of clinical success, which showed no difference between the carbapenem and piperacillin-tazobactam group (60% vs 56%, p=0.76), respectively. There was no difference in resolution of leukocytosis (84% vs 80%, p=0.58), hospital LOS (6.9 vs 7.0 days, p=0.67), or 30-day mortality (5% vs 0%, p=0.07) between the carbapenem and piperacillin-tazobactam groups, respectively.

Conclusions

We found no difference in clinical outcomes in patients with ESBL UTIs treated empirically with piperacillin-tazobactam versus carbapenems. Clinicians could consider using piperacillin-tazobactam in patients with ESBL UTIs susceptible to piperacillin-tazobactam.

Stephan, Danielle

Validation of the Drug Resistance in Pneumonia Score When Selecting Empiric Antibiotics for Community Acquired Pneumonia in a Community Hospital

Stephan, Danielle - Author[1]
[1]Sumner Regional Medical Center

Background/Purpose

When selecting empiric antibiotics for community acquired pneumonia (CAP), balancing adequate coverage while avoiding overutilization of broad-spectrum agents is challenging. Although there is national guidance on risk factors for drug-resistant pathogens, IDSA guidelines also recommend local risk factors be considered when selecting antibiotics for CAP. The purpose of this study was to analyze the applicability of the Drug Resistance in Pneumonia (DRIP) score to patients of Sumner Regional Medical Center (SRMC). Webb et al. derived the DRIP score to identify patients that may be at risk for infection with methicillin-resistant Staphylococcus aureus or Pseudomonas aeruginosa in CAP. Validation, or invalidation, of the DRIP score at SRMC will aid providers in empiric antibiotic selection, stewardship of broad-spectrum agents, and will ultimately improve patient outcomes.

Methods

A retrospective chart review was completed for all patients microbiologically diagnosed with CAP over a 1-year period at SRMC. Those with Covid-19 co-infection were excluded. Each subject chart was reviewed for patient demographics and DRIP score criteria. Each subject was assigned a DRIP score at time of admission, and this score was then compared to the subject's eventual sputum culture isolate to determine if their DRIP score on admission would have recommended the correct spectrum of antibiotics to treat their pneumonia with the least broad agent(s) as possible.

Results

57 subjects with microbiological evidence of CAP were identified between August 1, 2020 and August 1, 2021. Of those, 30 subjects met criteria to be included in this study. In patients with a DRIP score of 4 or more, 50% were found to have infection with MRSA or Pseudomonas. Within the individual DRIP score criteria, history of chronic lung disease was most highly correlated with resistance of any kind at 66.7%.

Conclusions

Although the DRIP score may be able to help identify patients at risk for infection with MRSA or pseudomonas, it was not clinically superior to empiric provider selection (56.7% appropriate).

Stepp, William

Evaluation of weight-based enoxaparin dosing in patients with obesity

Stepp, William - Author[1]; Clark, Katie - Co-Author[1]; Cox, Neeley - Co-Author[1]; McCrory, Kim - Co-Author[1]
[1]North Mississippi Medical Center

Background/Purpose

There is limited data on the accurate dosing of weight-based enoxaparin (WBE) in patients with obesity. Pharmacokinetic studies have demonstrated supratherapeutic anti-factor Xa (aXa) levels with standard dosing (1 mg/kg q12 hours) in patients with a body mass index (BMI) ≥40 kg/m2. The aim of this study is to assess the therapeutic dose of enoxaparin in obese patients based on aXa levels utilizing retrospective chart reviews.

Methods

This single-center, retrospective study included patients who were over 100 kg and received weight-based enoxaparin from January 2018 to August 2021. Patients were stratified into one of three patient groups based on total body weight: 100 kg to 120.9 kg, 121 kg to 149.9 kg, and ≥150 kg. The primary outcome was to assess the WBE (in milligrams per kilogram) to achieve a therapeutic aXa level in obese patients. Secondary outcomes included bleeding, thromboembolic events, and thrombocytopenia. Descriptive statistics were used to analyze study data.

Results

A total of 1223 patients were screened and 158 met inclusion criteria. The patients were placed in their respective groups: 100-120.9 kg (n=88), 121-149.9 kg (n=39), and ≥150 kg (n=31). The patients were then assessed for the WBE needed to result in a therapeutic aXa level. In the 100-120.9 kg patient group, an average of 0.87mg/kg of enoxaparin was needed. In the 121-149.9 kg patient group, an average of 0.83mg/kg of enoxaparin was needed. In the ≥150 kg patient group, an average of 0.73mg/kg of enoxaparin was needed. Secondary outcomes were also assessed. Thrombocytopenia occurred in 18 patients (11%) and bleeding occurred in 4 patients (3%). No patients experienced a thromboembolic event.

Conclusions

Patients over 100 kg requiring WBE achieved therapeutic anticoagulation with less than the standard dose of enoxaparin on average. Specifically, patients 150 kg or more achieved a therapeutic aXa level on much lower WBE. Secondary outcomes data further reflects the efficacy and safety of reduced WBE.

Stirrup, Natalie

Droperidol Undermining Gastroparesis Symptoms (DRUGS) in the Emergency Department

Stirrup, Natalie - Co-Author[1]; Jones, Gavin - Co-Author[1]
[1]UAMS Medical Center

Background/Purpose

Gastroparesis is a syndrome of delayed gastric emptying without obstruction. There are high rates of Emergency Department (ED) visits due to gastroparesis, and this chronic disease is difficult to treat which often leads to hospital admissions. Current approved therapies include metoclopramide and electrical stimulation devices. Other therapies include off-label use of antiemetics, prokinetic medications, opioid use, as well as onabotulinumtoxinA injections and surgical procedures. Studies of ED patients with gastroparesis presenting with abdominal pain, nausea, and vomiting have shown that haloperidol reduces pain and nausea while reducing the amount of morphine equivalents administered and reducing admission rates. The aim of this study was to evaluate the impact droperidol administration has on symptom relief; co-administration of antiemetic, prokinetic, and analgesic medications; disposition, cost, and length of stay on patients presenting to the ED.

Methods

This study was a single center, retrospective chart review of adult patients who have an ICD-code for gastroparesis, cyclic vomiting, chronic abdominal pain, nausea, vomiting, and/or abdominal pain and have at least one ED visit where they received droperidol while in the ED between January 1, 2015, and August 31, 2021. Subjects' visits were matched to their most recent ED visit $\geq$7 days prior where they did not receive droperidol.

Results

Results will be presented as they are gathered and assessed.

Conclusions

The results of this study will be used to evaluate droperidol's utility for gastroparesis symptoms in the Emergency Department.

Tang, Joanna

Evaluation of Post-Discharge Follow-up Phone Calls Effect on Continuation of Direct Oral Anticoagulant Therapy in Patients Treated for Atrial Fibrillation or Thromboembolism

Tang, Joanna - Author[1]; Nguyen, John - Co-Author[1]; White, Lindsay - Co-Author[1]; Brent, Zachary - Co-Author[1]
[1]Baptist Memphis

Background/Purpose

Objective: To determine if pharmacy driven follow up phone calls will help patients obtain continuation of their direct oral anticoagulant therapy for the treatment of thromboembolism or stroke prophylaxis in atrial fibrillation.

Medication nonadherence is a growing concern to clinicians, healthcare systems, and other stakeholders. This is associated with adverse outcomes, increase in hospital readmission rates, and higher costs of care. In an effort to improve medication adherence and decrease hospital readmissions at Baptist Memorial Hospital-Memphis, a pharmacy-driven follow up phone call will be implemented for patients discharged with a direct oral anticoagulant for the treatment of atrial fibrillation or thromboembolism. This entails pharmacist evaluation of continuation of therapy post-discharge through a telephone encounter and standardized questionnaire. The purpose of this study is to evaluate the impact of pharmacy-driven intervention with follow-up phone calls on continuation of direct oral anticoagulant therapy.

Methods

This study is a single-center, retrospective chart review of patients discharged from the hospital who were prescribed a direct oral anticoagulant for atrial fibrillation or thromboembolism between January 1, 2021, and March 1, 2022. The primary outcome will be successful continuation of direct anticoagulation therapy, defined as refills obtained by patients who received a pharmacy-driven follow-up phone call versus matched control patients who did not receive a follow-up phone call. The secondary outcome will be the number of 90-day readmissions for thromboembolism or acute ischemic stroke. The primary and secondary objectives will be analyzed using descriptive statistics. This study has been submitted to the Institutional Review Board for approval.

Results

Results are still in progress and will be described at the MidSouth Pharmacy Residents Conference (MSRC).

Conclusions

Results are still in progress and will be described at the MidSouth Pharmacy Residents Conference (MSRC).

Taylor, Jonathon

Effectiveness of education and bedside mixing of 4 factor Prothrombin Complex Concentrate on administration times.

Taylor, Jonathon - Author[1]; Schirmer, Lori - Co-Author[2]; Vaughn, Rachel - Co-Author[1]; Allee, Kathleen - Co-Author[1]; Wheeler, Sperry - Co-Author[1]
[1]Fort Sanders Regional Medical Center, Knoxville TN, [2]Cardinal Health, Knoxville TN

Background/Purpose

Pharmacists are tasked with providing timely pharmacotherapy that is both accurate and cost-effective. These goals are essential during critical moments in the Intensive Care Unit (ICU) and Emergency Department (ED). High-risk medications, like anticoagulant reversal agents, require narrow dosing parameters and tight administration timelines. The purpose of this study was to evaluate education of bedside mixing of 4 factor Prothrombin Complex Concentrate (4-PCC) as a method to decrease delays to administration and improve proficiency with rapid preparation in the setting of emergency scenarios.

Methods

This is an IRB approved study. The principal investigators conducted a cohort study at two different time points: pre and post-drill education. Approximately 25 to 30 nursing and pharmacy staff who routinely administer emergent medications will participate in this study. Pre-education participants will be tasked with answering a short questionnaire to assess baseline knowledge about 4-PCC. After the initial questionnaire, the nursing staff will be timed in a mock emergency drill to assess proficiency and timeliness for mixing 4-PCC. Pharmacy will then educate participants on 4-PCC preparation and administration. After 4-PCC education, 4-PCC will be stocked in the automated dispensing cabinets for bedside mixing. A post-education emergency drill will then be conducted, and the participants will answer the post-education questionnaire. Questionnaire results and drill duration from both time points will be compared to assess proficiency. Education and drill creation will be organized by the principal investigator and approved by appropriate nursing and pharmacy supervisors

Results

This is an ongoing project. More data to come

Conclusions

This is an ongoing project. More data to come.

Teague, Grant

Evaluation of transparency and resiliency of the pharmaceutical global supply chain

Teague, Grant - Author[1]
[1]HealthTrust Purchasing Group

Background/Purpose

Over 85% of active pharmaceutical ingredient (API) manufacturing facilities for generic medications are located outside the United States. Increasing globalization poses a risk to the transparency and resiliency of the pharmaceutical supply chain. Gaps in knowledge throughout the pharmaceutical supply chain limits the ability of providers to ensure patients are able to receive safe and effective medications. The purpose of this project is to evaluate the current state of transparency and resiliency of the pharmaceutical supply chain and to identify steps being taken by manufacturers to further strengthen it.

Methods

Two methods were utilized to determine the transparency of pharmaceutical manufacturers' supply chains: 1) a survey to manufacturers and 2) an analysis of product specific supply chain information received during contract bids. The survey assessed if transparency varied by contract status or medication type. Resiliency was assessed via the breakdown of API source and manufacturing by country and percentage of manufacturers who were vertically integrated across the supply chain. Manufacturers were also asked to rank six strategies for strengthening the pharmaceutical supply chain by their potential impact and if the manufacturer plans to implement any of the strategies.

Results

Preliminary
Evaluation of the supply chain information received from contract bids showed 58% of manufacturers were unwilling to share the location of API source compared to only 4% unwilling to share the location of final dosage form (FDF) manufacturing. A much larger percent of known API sources were outside the U.S. compared to FDF manufacturers, 97% and 62%, respectively. According to the survey, manufacturers are most willing to share supply chain information for contracted medications, with 56-64% willing to do so. Only 13-29% of manufacturers are willing to share this information for non-contracted medications. Increasing domestic manufacturing was ranked as having the greatest potential impact of the six strategies aimed at strengthening the pharmaceutical supply chain. The two strategies manufacturers are most commonly planning to implement are maintaining emergency capacity of critical medications and increasing domestic manufacturing capacity.

Conclusions

Increasing domestic manufacturing capacity is a priority of pharmaceutical manufacturers as a means to strengthen a supply chain that is reliant on international production.

Thacker, Erica

Impact of a Standard Protocol for Use of Continuous Infusion Anesthetic Agents in the Treatment of Refractory Status Epilepticus

Thacker, Erica - Author[1]
[1]Methodist University Hospital

Background/Purpose

When status epilepticus (SE) persists despite emergent and urgent treatment with antiepileptic drugs (AED), it is referred to as refractory SE (RSE). Guidelines recommend quickly escalating therapy by either repeating initial agents, choosing an alternative AED, or even initiating continuous intravenous (CIV) anesthetic agents. Adherence to a standardized treatment protocol for general treatment of SE has been associated with better seizure control and shorter intensive care unit and hospital length of stay, but no literature exists evaluating protocols aimed at treating patients for RSE with CIV anesthetic agents. Due to the lack of literature in this area, we aimed to determine the benefits of implementing a standard protocol for use of CIV anesthetic agents in the treatment of RSE.

Methods

A retrospective analysis of adult patients admitted to the Methodist University Hospital (MUH) with a diagnosis of RSE was conducted from January 1, 2011 – July 31, 2021. In 2018, MUH began using a standard protocol to facilitate treatment for RSE. Therefore, patients were grouped based on whether they received treatment prior to or after implementation of the protocol. Discharge disposition, duration of hospitalization, time to seizure termination, and rates of adverse effects were evaluated.

Results

A total of 64 patients were included, with 16 (20%) pre-implementation and 48 (80%) post-implementation. Patients included were predominantly female (61%), African American (80%), had a history of seizures (62.5%), and a mean age of 59 years. Other baseline characteristics were similar between groups. For the primary outcome, the percent of patients with in-hospital death or discharge to hospice was numerically lower in the post-implementation group (25% vs 16.7%, p=0.48). Patients who received treatment through the protocol also had a numerically shorter time to seizure termination (21 vs 26.7 hours, p=0.19). Duration of hospitalization (13.8 vs 14.4 hours, p=0.93) was similar between groups.

Conclusions

Although there was no statistical difference in the primary outcome between groups, there was a nearly 10% improvement in survival, as well as reduced time to seizure termination, through implementation of an RSE protocol. Further research is needed to determine the overall impact of similar protocols amongst a larger cohort of patients.

Thames, Chelsea

DESIGN AND IMPLEMENTATION OF A DECENTRALIZED PHARMACY PRACTICE MODEL AT A TERTIARY TEACHING HOSPITAL IN MISSISSIPPI (PHASE II)

Thames, Chelsea - Author[1]; Arnold, Jon - Co-Author[1]
[1]Memorial Hospital at Gulfport

Background/Purpose

The role of clinical pharmacists in the hospital setting has evolved over the years, with transitioning away from a centralized control to a patient-centered model. Decentralizing pharmacy services enhances the scope of clinical pharmacists and improves the quality of care in hospitalized patients. Therefore, our facility will transition from our current hybrid centralized model to a new decentralized pharmacy practice model where pharmacists provide direct patient care for their assigned inpatient unit.

Methods

The redesign of our centralized pharmacy model consists of two phases. Phase I includes administrative structuring where data will be collected and used to determine the placement of pharmacists in patient care areas. Phase II involves pharmacist training and assessing competency in select patient care tasks. All interested pharmacists will be required to attend training for enhanced improvement in clinical tasks and interventions, as well as, an overview of the hospital's automated dispensing system operation and troubleshooting. A few of our clinical pharmacists who have not participated in order entry and verification recently will also attend review sessions dedicated to this area of pharmacy. A survey will be given prior, during and post-implementation to all pharmacists and nursing staff located on the decentralized floors. The survey will assess satisfaction with the new pharmacy model and ways to improve its transition. In order to identify if this pharmacy model is effective, we will analyze data and examine survey results. The same data as discussed in phase I will continue to be collected prospectively and compared to data prior to implementation, which is where we hope to see an improvement with clinical tasks and interventions performed by each individual pharmacist.

Results

Pending, data collection in progress.

Conclusions

Pending analysis of results.

Thel, Mariko

Safety of Direct Acting Oral Anticoagulants in Patients with Gastrointestinal Cancer

Thel, Mariko - Author[1]; Latendresse, Erin - Co-Author[1]; Gillion, Amanda - Co-Author[1]; Peyton, Jennifer - Co-Author[1]
[1]Memphis VAMC

Background/Purpose

Low molecular weight heparin (LMWH), edoxaban, and rivaroxaban are guideline recommended treatments for venous thromboembolism (VTE) in patients with cancer. Recent literature has demonstrated similar efficacy of preventing recurrent VTE with these direct acting oral anticoagulants (DOACs) versus LMWH, however, higher rates of bleeding may be observed with specific types of cancer. The safety of DOACs in patients with active gastrointestinal cancer, regardless of the indication for anticoagulation, remains controversial. In this study, rates of bleeding among patients receiving DOACs for prevention of recurrent VTE and stroke prevention in atrial fibrillation at the time of active gastrointestinal cancer will be compared to historical rates of bleeding reported in the literature among patients who received LMWH.

Methods

This study is a retrospective observational chart review of Veterans Affairs locations in VISN 9. This study included patients who received a DOAC at a therapeutic dose for seven days or longer at the time of active gastrointestinal cancer. The primary outcome is the rate of bleeding requiring medical intervention. Secondary outcomes include hospital mortality, site of bleeding, number of transfusions, and number of hospitalizations due to bleeding.

Results

Results will be described.

Conclusions

Results will be described.

Thieneman, Heather

Evaluating the Titration of Propofol According to RASS Goals and Joint Commission Standards During the COVID-19 Pandemic

Thieneman, Heather - Author[1]; Pruitt, Joshua - Co-Author[1]; Ashby, Margo - Co-Author[1]
[1]Baptist Health Deaconess Madisonville

Background/Purpose

The COVID-19 pandemic has had a great impact on the staffing of nurses, with nurse turnover increasing and more travel nurses being hired. Significant staff turnover necessitates increased need for education. This concern is especially true for nurses working in the ICU where many patients are sedated and mechanically ventilated. Additionally, during the COVID 19 pandemic there has been a greater ventilator burden and subsequent need for sedation. Propofol is a common sedative used in mechanically ventilated patients and requires frequent monitoring in order to ensure an appropriate sedation level is achieved and maintained. According to the Joint Commission Standards for titration orders, orders should include an initial infusion rate, the frequency at which the infusion can be titrated, the maximum infusion rate, and the objective clinical endpoint. For patients sedated with propofol, the clinical endpoint is the Richmond Agitation-Sedation Scale (RASS) which assesses the level of sedation of a patient. Light level of sedation is recommended, and proper titration of propofol according to this RASS goal can lead to improved patient outcomes.

Methods

A retrospective chart review was conducted on patients receiving propofol for >48 hours during November and December of 2021. The data collected included spontaneous breathing trial (SBT) attempts, documentation of exclusion criteria for not performing a SBT, rate of propofol infusion after failed SBT, RASS documentation, and titration of propofol according to the RASS goal. This information was then evaluated to determine areas for improvement and provide direction for future education initiatives.

Results

Results are ongoing and will be available at the time of the presentation.

Conclusions

Conclusion is pending.

Tijani, Aminat

Direct Oral Anticoagulants Versus Warfarin for Venous Thromboembolism Prophylaxis in Patients with Nephrotic Syndrome: A Retrospective Cohort Study

Tijani, Aminat - Author[1]; Coons, Eric - Co-Author[1]; Casey, Ashley - Co-Author[1]; Mizuki, Britta Mizuki - Co-Author[1]; Dermady, Miranda - Co-Author[1]; Stanilova, Ekaterina - Co-Author[1]; Dwal, Ashraf - Co-Author[1]; Alqudsi, Muhannad - Co-Author[1]; Velez, Juan Carlos - Co-Author[1]; Gastanaduy, Mariella - Co-Author[1]; Bamnolker, Adi - Co-Author[1]
[1]Ochsner Health System

Background/Purpose

Certain glomerular disorders can lead to nephrotic syndrome (NS), defined by the presence of nephrotic range proteinuria, hypoalbuminemia, and peripheral edema. Membranous nephropathy, in particular, can lead to a hypercoagulable state thought to be secondary to derangements in coagulation homeostasis. Current guidelines recommend prophylactic anticoagulation with warfarin in patients with membranous nephropathy, serum albumin < 2.5 g/dL, and a low bleeding risk. While direct oral anticoagulants (DOACs) have been shown to be safe and effective compared to warfarin in other patient populations, literature regarding primary and secondary venous thromboembolism (VTE) prophylaxis with DOACs in patients with NS is limited to only a few retrospective studies. Additionally, apixaban and rivaroxaban are highly protein-bound and may have significantly decreased half-lives in patients with NS. The purpose of this study was to compare bleeding and thrombotic event rates in patients with NS receiving DOACs or warfarin for VTE prophylaxis.

Methods

A retrospective cohort study was conducted in adult patients with NS initiated on a DOAC or warfarin for thromboprophylaxis within the Ochsner Health System between January 1, 2013, and July 1, 2021. Patients were excluded if they had a prior venous thromboembolism within 6 months, had prior exposure to any other study drug within 7 days, had exposure to a study drug ≤ 7 days, or if their only encounter within the Ochsner Health System was a solitary outpatient clinic visit. The primary outcome was the composite rate of major bleeding and clinically-relevant non-major bleeding.

Results

A retrospective cohort study was conducted in adult patients with NS initiated on a DOAC or warfarin for thromboprophylaxis within the Ochsner Health System between January 1, 2013, and July 1, 2021. Patients were excluded if they had a prior venous thromboembolism within 6 months, had prior exposure to any other study drug within 7 days, had exposure to a study drug ≤ 7 days, or if their only encounter within the Ochsner Health System was a solitary outpatient clinic visit. The primary outcome was the composite rate of major bleeding and clinically-relevant non-major bleeding.

Conclusions

Of 171 patients screened, 44 patients were included in the study (19 in the warfarin cohort and 25 in the DOAC cohort). The primary outcome occurred in 5 patients treated with warfarin and 2 patients treated with a DOAC (26% vs 8%; P=0.210).

Trejo, Britany

Evaluation of Front-loaded Versus Symptom-triggered Treatment for Alcohol Withdrawal in Critically Ill Patients

Trejo, Britany - Author[1]; Powell, Meghan - Co-Author[1]; Mitchell, Kristie - Co-Author[1]; Harlan, Sarah - Co-Author[1]; Ruckel, Cassidy - Co-Author[1]
[1]Baptist Memphis

Background/Purpose

Approximately 20% of patients with alcohol use disorder admitted to the hospital will develop acute alcohol withdrawal syndrome and require intensive care. Recent literature suggest symptom-triggered benzodiazepine management may result in shorter treatment courses, increased patient safety and less benzodiazepine exposure when compared to front-loaded benzodiazepine management. This study aims to evaluate the safety and efficacy of a symptom-triggered protocol, utilizing Clinical Institute Withdrawal Assessment (CIWA) scores, compared to front-loaded benzodiazepine therapy for treatment of alcohol withdrawal in critically ill patients.

Methods

This study was a single-center, IRB-approved, retrospective chart review evaluating patients admitted to a large tertiary care hospital from July 1, 2016 to January 1, 2022. Adult patients admitted to the intensive care unit (ICU) diagnosed with acute alcohol withdrawal who received treatment with either front-loaded or symptom-triggered benzodiazepines were included. Patients with severe brain injuries, defined as a Glasgow Coma Score ≤ 8, those with a contraindication to benzodiazepine therapy, and those with polysubstance abuse withdrawal were excluded from this evaluation. Key data points collected include patient age, gender, ICU admission/discharge dates, daily CIWA scores, daily Richmond Agitation – Sedation Scale (RASS) scores, daily Confusion Assessment Method (CAM) scores, cumulative benzodiazepine dose in lorazepam equivalents, use of adjunctive therapies, mortality occurrence, delirium tremens (DTs) occurrence, and seizure development. The primary outcome was length of stay (LOS) in the ICU. Secondary outcomes included cumulative benzodiazepine usage, incidence of clinical delirium, need for adjunctive therapy, hospital LOS, incidence of DTs, incidence of seizures, and in-hospital mortality. The primary and secondary objectives were analyzed using descriptive statistics.

Results

A total of 254 patients were screened, in which 17 patients were included in the CIWA protocol group and 21 patients in the front-loaded protocol. There was no statistical significance difference between ICU or hospital LOS between the two groups. There was also no statistical difference in benzodiazepine usage, however there are trends towards less benzodiazepine exposure in the CIWA protocol.

Conclusions

There was no statistical difference in the primary outcome, however there was a statistical reduction in incidence of DTs without seizures in addition to a trend towards less benzodiazepine and adjunctive therapy use.

Vance, Mary

A retrospective analysis of risk factors for bloodstream infections due to extended-spectrum beta-lactamase producing Escherichia coli, Klebsiella spp., and Proteus mirabilis

Vance, Mary - Author[1]; Wingler, Mary Joyce - Co-Author[1]; Cretella, David - Co-Author[1]
[1]University of Mississippi Medical Center

Background/Purpose

Extended-spectrum beta-lactamases (ESBL) are a group of enzymes that confer resistance to most beta-lactam antibiotics. Infections caused by ESBL-producing bacteria have been associated with higher morbidity and mortality. Risk factors for ESBL infections have been described, but can vary geographically. The purpose of this study was to identify institution-specific risk factors for ESBL production in patients admitted to the University of Mississippi Medical Center (UMMC) with gram-negative bacteremia.

Methods

This retrospective observational study included patients who were 18 years or older admitted to UMMC from January 2019 to July 2021 with positive blood cultures for E. coli, K. pneumoniae, K. oxytoca, and P. mirabilis. Patients with plasmid-mediated Amp C or carbapenem resistant species, polymicrobial blood cultures, prisoners, and pregnant patients were excluded. The primary outcome of this study was to identify risk factors for ESBL production in patients with gram-negative bacteremia. Secondary outcomes included comparing inpatient mortality and length of stay between patients with and without ESBL resistance present and determining time to initiation of carbapenem therapy in patients with an ESBL infection.

Results

A total of 150 patients were included, 50 in the ESBL group and 100 in the non-ESBL group. There were significantly more patients in the ESBL group with a central line (38% vs. 19%, $p = 0.012$), previous ESBL infection (18% vs. 0%, $p < 0.001$), a hospital or health-care associated infection (90% vs. 61%, $p < 0.001$), or received immunosuppression (50% vs. 29%, $p = 0.012$) or more than one antibiotic in the previous 90 days (56% vs. 22%, $p < 0.001$). Patients in the ESBL group had a longer length of stay (11 vs. 7 days, $p <0.001$), but similar rates of mortality (14% vs. 15%, $p = 0.87$). The median time to initiation of a carbapenem in the ESBL group was 2 days. Risk factors will be described.

Conclusions

A number of factors were more common in the group of patients with an infection due to an ESBL producing organism. These factors could be taken into consideration when selecting empiric antibiotic therapy for patients with bacteremia due to gram-negative organisms known to produce ESBL.

Wagner, Ross

Factors associated with an increased risk of vitamin b12 deficiency in type 2 diabetes patients on metformin

Wagner, Ross - Author[1]; Boehmer, Kaci - Co-Author[1]; Mahashabde, Ruchira - Co-Author[1]; Painter, Jacob - Co-Author[1]
[1]University of Arkansas for Medical Sciences

Background/Purpose

Metformin is an antidiabetic agent used to treat type 2 diabetes. The risk of vitamin b12 deficiency has been associated with prolonged use of metformin. Many other factors have also been associated with vitamin b12 deficiency. Studies on the possible additive effect of multiple risk factors for developing a vitamin b12 deficiency are lacking. We hypothesized that the presence of one or more known risk factors associated with vitamin b12 deficiency would correlate to deficient vitamin b12 levels in these patients.

Methods

This single center, retrospective cohort study was approved by the Institutional Review Board. For inclusion, patients needed to be at least 18 years old, diagnosed with type 2 diabetes, taking metformin for at least 2 years, and actively taking metformin during the study period of October 2020 to September 2021. Patients without documentation of at least 2 years of metformin therapy at the study site were excluded. The primary outcome was the rate of occurrence of serum b12 levels <300 pg/mL associated with the presence of vitamin b12 risk factors. Demographics were compared using descriptive statistics, and clinical data using Wald Chi-squared and Pearson Correlation Coefficient tests.

Results

A total of 387 patients met inclusion criteria for this study. As observed, 25 patients had at least one b12 result below 300 pg/mL during the study period. The cohort was an average 69 years old and predominantly female (66%) and African American (72%). Among the assessed risk factors for b12 deficiency, none were associated with a higher incidence of b12 deficiency. Patients with higher weights were found to have an increased risk of vitamin b12 deficiency (p=0.0438). Of note, only 81 patients had a b12 level drawn during the study period.

Conclusions

Patients at higher weights may have an increased risk of vitamin b12 deficiency. Only 21% of patients had their vitamin b12 level checked during the study period, warranting a closer look at current site protocols for checking this lab. Further studies that are appropriately powered with larger study populations are needed to better evaluate the association of these risk factors with vitamin b12 deficiency.

Waguespack, Taylor

Influence of amiodarone on warfarin sensitivity in patients with a left ventricular assist device

Waguespack, Taylor - Author[1]; Thai, Steven - Co-Author[1]; Baetz, Brooke - Co-Author[1]; Jennings, Katherine - Co-Author[1]; Lackie, Miranda - Co-Author[1]; Bukovskaya, Yana - Co-Author[1]

[1]Ochsner Health

Background/Purpose

Amiodarone may potentiate the effect of warfarin in patients without a left ventricular assist device (LVAD). To date there is no literature regarding amiodarone and warfarin sensitivity in patients with an LVAD. The purpose of this study was to determine whether amiodarone administration increased warfarin sensitivity post-operatively in patients implanted with an LVAD.

Methods

We conducted a single-center retrospective study in adult patients with a newly implanted LVAD. Outcomes were compared between patients that received peri-operative amiodarone vs no amiodarone. The primary outcome that quantified warfarin sensitivity was the warfarin dosing index on day 6 (WDI-6), defined as the ratio of the INR on day 6 after initiation of warfarin (day 1). Linear regression analysis was used to identify predictors of log 10 WDI-6.

Results

After exclusions, 220 patients received amiodarone and 136 patients did not. Median WDI-6 was higher in the amiodarone vs no amiodarone group (0.53 vs 0.46; p=0.003). Compared to the no amiodarone group, the amiodarone group had more patients with an INR ≥4 at 30 days (40.5% vs 23.5%; p=0.001) and required less warfarin at discharge (4 mg vs 5 mg; p<.001). Significant predictors of log 10 WDI-6 included amiodarone use, BMI, albumin, pre-operative vitamin K, age, female sex, and concurrent use of a CYP P450 inhibitor.

Conclusions

Amiodarone is associated with increased warfarin sensitivity in LVAD patients post-operatively. Lower starting doses of warfarin should be considered if LVAD patients are receiving concomitant amiodarone.

Wells, Drew

Safety of Antiplatelet Therapy Administration within the Twenty-Four Hour Post-alteplase Window in Patients with Acute Ischemic Stroke

Wells, Drew - Author[1,2]; Davis, Lyndsey - Co-Author[3]; Jones, G. Morgan - Co-Author[1]; March, Katherine - Co-Author[1]

[1]Methodist University Hospital, [2]The University of Tennessee Health Science Center College of Pharmacy, [3]University of Tennessee Health Science Center College of Pharmacy

Background/Purpose

Alteplase, a tissue-type plasminogen activator (tPA), is recommended for thrombolysis in most patients presenting within 4.5 hours of symptom onset of an acute ischemic stroke (AIS). Antiplatelet therapy (APT) is also guideline recommended for secondary stroke prevention. Due to bleeding risks, current recommendations advise initiating APT 24 hours (h) after alteplase completion; however, certain scenarios may require APT be given within the 24h window. This study aimed to examine the safety of APT administration within 24h of alteplase in AIS.

Methods

Retrospective analysis of adult AIS patients receiving alteplase in the Methodist LeBonheur Healthcare system from 01/01/2016 to 04/30/2021 was conducted. Patients were grouped based on whether APT was given prior to the 24h window [early APT, (E-APT)] or as recommended [standard APT (S-APT)]. The occurrence of bleeding events, including symptomatic intracranial hemorrhage (sICH) and/or GI bleeding, as well as in-hospital mortality and length of stay (LOS), was compared between groups. Patient characteristics and timing of APT administration were evaluated to determine any association with bleeding risk.

Results

Of 328 patients screened, 300 patients (100 E-APT; 200 S-APT) were included in the final analysis. Patients were predominantly African American (72%) and female (53%) with a median age of 62 years. Median (25-75% interquartile range) baseline NIHSS scores were 5 (2-9) in the E-APT versus 4 (2-6) in S-APT group. Mean time to APT administration was 22 hours post-alteplase in the E-APT group versus 26.7 hours in the S-APT. sICH occurred more frequently in the E-APT group compared to the S-APT group (5% vs 0%, p=0.004). In patients with sICH, mean time between alteplase and APT administration was 15.1 hours. Four out of five patients with sICH underwent mechanical thrombectomy. No difference was found in rate of GI bleeding. In-hospital mortality was higher in the E-APT group compared to the S-APT group (6% vs 1%, p=0.018). No difference in LOS between the groups (2.3 vs 2.2 days, p=0.71) was observed.

Conclusions

In an unmatched analysis, sICH was higher in the E-APT group compared to S-APT. Further analysis is needed to adjust for potential baseline confounders to fully elucidate the safety of E-APT in AIS patients.

Wenski, Audrey

The investigation of a weight-based enoxaparin dosing strategy for VTE prophylaxis in traumatic brain injury patients

Wenski, Audrey - Author[1]
[1]University of Arkansas for Medical Sciences (UAMS)

Background/Purpose

Venous thromboembolism (VTE) remains a significant cause of morbidity in hospitalized patients, especially post-surgical and trauma patients. In trauma patients, enoxaparin has been shown to be more effective than unfractionated heparin in preventing VTE in patients who have sustained major traumas. The optimal dosing strategy of enoxaparin for patients who have traumatic brain injuries has not been determined. The purpose of this study was to compare the effectiveness of a weight-based dosing strategy of enoxaparin compared to a standard dose for VTE prophylaxis in patients who have traumatic brain injuries.

Methods

This was a single-center, retrospective, observational, pre-post study conducted at an academic, Level One trauma center from July 2017 to July 2021. Patients were included if they presented with a traumatic brain injury, as defined by a Head Abbreviated Injury Score (AIS) > 0, had an eGFR > 30 mL/min/1.73 m^2, were started on twice daily enoxaparin, had received at least three doses of enoxaparin, and had appropriately drawn anti-Xa serum levels. Patients were excluded if they received therapeutic doses of enoxaparin. Initially, patients received either standard doses of enoxaparin at 30 mg subcutaneously twice daily or a weight-based regimen of 0.5 mg/kg subcutaneously twice daily. Anti-Xa serum levels, targeting a goal peak of 0.2-0.4 IU/mL, were assessed after at least the third consecutive dose of enoxaparin.

Results

Results to be presented as they are gathered and assessed.

Conclusions

Pending final results.

Wheat, Wade

Methylprednisolone vs. dexamethasone for the treatment of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) pneumonia: a retrospective, cohort analysis

Wheat, Wade - Author[1]; Mayberry, Anna - Co-Author[1]; Fussell, Jacob - Co-Author[1]; Flippin, Tiffany - Co-Author[1]
[1]Henry County Medical Center

Background/Purpose

Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2 / COVID-19) is a viral respiratory disorder with morbidity and mortality primarily attributed to the development of an acute systemic inflammatory response to the virus. Corticosteroids play a role in the treatment of COVID-19 pneumonia by mediating cytokine production and producing a potent anti-inflammatory effect. Dexamethasone was shown to provide a mortality benefit in hospitalized patients with COVID-19 requiring supplemental oxygen or mechanical ventilation. Systemic corticosteroids are currently standard therapy for patients with COVID-19 who require supplemental oxygen. Various smaller publications have shown benefit in methylprednisolone use in COVID-19 patients as well, specifically when compared to dexamethasone. Henry County Medical Center (HCMC) currently uses high-dose methylprednisolone as the steroid of choice in patients with laboratory -confirmed COVID-19 pneumonia requiring supplemental oxygen. The objective of this study is to compare the efficacy and safety of dexamethasone versus methylprednisolone when used for the treatment of patients with COVID-19 pneumonia who require supplemental oxygen.

Methods

Drug utilization reports of all patients admitted to HCMC between January 1, 2021, and September 3, 2021, who received either dexamethasone or methylprednisolone for the treatment of COVID19 pneumonia were reviewed. Inclusion criteria are the following: laboratory-confirmed COVID-19, requirement for supplemental oxygen, age of 18 years or older, and received either dexamethasone or methylprednisolone for at least 3 days. Exclusion criteria are the following: patients who received tocilizumab or baricitinib prior to admission or while admitted, patients who received casirivimab/imdevimab prior to admission, patients presenting with septic shock, death within the first 24 hours of admission, and requirement for mechanical ventilation within the first 24 hours of admission. The primary endpoint is inhospital, all-cause mortality. The secondary endpoints are the following: hospital length of stay, incidence of critical care unit admission, critical care unit length of stay, incidence of progression to mechanical ventilation, incidence of steroid-induced hyperglycemia and leukocytosis, and incidence of confirmed superimposed respiratory bacterial co-infection.

Results

Results will be described pending completion of data collection and statistical analyses.

Conclusions

Conclusions will be described pending completion of data collection and statistical analyses.

Williams, Megan

Impact of concomitant versus delayed azole initiation on attainment of goal sirolimus concentrations

Williams, Megan - Author[1]; Wu, Diana - Co-Author[1]; Ward, Deborah - Co-Author[1]; Pauley, Jennifer - Co-Author[1]; Bragg, Allison - Co-Author[1]; McCormick, John - Co-Author[1]; Sharma, Akshay - Co-Author[1]
[1]St. Jude Children's Research Hospital: Memphis, TN

Background/Purpose

Sirolimus and azole antifungals may be used following allogeneic hematopoietic cell transplant (HCT). The pharmacokinetics of sirolimus in children are characterized by poor absorption, high clearance, and significant variability. Azoles inhibit CYP3A4 and P-glycoprotein, reducing sirolimus metabolism and excretion, increasing variability further. Sirolimus concentrations outside goal range may increase the risk for complications. The primary outcome was to assess the time to initial attainment of stable goal sirolimus concentrations between patients concomitantly initiated on an azole and sirolimus (concomitant group) with those initiated on an azole after sirolimus had been started (delayed group). The secondary outcomes were to assess the incidences of elevated sirolimus concentrations, transplant-associated thrombotic microangiopathy, graft-versus-host disease, and dyslipidemia. Current standard practice of our institution is to delay azole initiation until goal sirolimus concentrations are reached.

Methods

This single center, retrospective review includes HCT recipients who received both sirolimus and an azole between January 1, 2016 and August 1, 2021. Patients must have received sirolimus as initial GVHD prophylaxis. Patients in the delayed group were excluded if sirolimus concentrations were not obtained prior to azole initiation. The concomitant group must initiate both agents within 72 hours; the delayed group initiated an azole more than 72 hours from sirolimus. Descriptive statistics will be used to describe the study population and outcomes.

Results

Results are preliminary. A total of 48 patients were included, with 36 patients in the delayed group and 12 in the concomitant group. The median time to initial attainment of stable goal sirolimus concentrations was 8.14 days in the delayed group versus 4.58 days in the concomitant group. One patient in the delayed group did not reach the primary outcome. The delayed group had 73 of 645 (11.3%) sirolimus concentrations above goal range versus 11 of 168 (6.5%) in the concomitant group.

Conclusions

Based on preliminary data, concomitant initiation of sirolimus and an azole allows patients to reach stable goal sirolimus concentrations sooner and with a lower incidence of supratherapeutic concentrations. This may result in fewer complications and ability to discharge patients sooner post-HCT. Concomitant initiation of sirolimus and azoles may be a safe alternative to our current practice.

Wilson, Sean

The Benefits of Batch Compounding Intravenous Dexamethasone with Ondansetron in an Outpatient Infusion Center Prior to Highly Emetogenic Chemotherapy

Wilson, Sean - Author[1]; Hedges, William - Co-Author[1]
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Background/Purpose

Chemotherapy-induced nausea and vomiting (CINV) is one of the major and most feared adverse effects of chemotherapy. It is recommended that patients receiving highly emetogenic chemotherapy (HEC) receive primary prophylaxis for acute and delayed emesis prevention consisting of a neurokinin-1 receptor antagonist, serotonin receptor antagonist, and dexamethasone.
After the relocation of our hospital's Outpatient Infusion Center (OIC) in August 2021 and the increasing volume of OIC patients, the pharmacy was able to evaluate potential process improvements. Due to the quantity of patients on HEC, specifically cisplatin or carboplatin with paclitaxol, we elected to evaluate the opportunities for batch compounding the chemotherapy premedications, dexamethasone with ondansetron. The goal was to alleviate the IV room pharmacist/technicians on busy chemotherapy days, allow nurses to have the medication on hand, and decrease total chair time for the patient. With this process improvement, we hypothesized patients that received the batched compounded premedications would have a decreased average start time of chemotherapy and overall OIC time compared to those that received standard compounded premedications.

Methods

This single-center, retrospective chart review was approved by our institution's Institutional Review Board. A process on batching dexamethasone with ondansetron in normal saline was developed using data from ASHP's Handbook of Injectable Drugs. The electronic medical record, Cerner, was used to identify patients that received dexamethasone 12 mg or 20 mg and ondansetron 16 mg prior to cisplatin or carboplatin and paclitaxol at Ascension Saint Thomas Hospital Midtown's OIC between July 1, 2020 through February 28, 2022. Patients either received batched dexamethasone with ondansetron or a standard, patient specific preparation of these products. The primary outcome was to evaluate the time between verification of chemotherapy premedications and administration of dexamethasone with ondansetron by chart review. The total average time between verification of premedications until the start of chemotherapy and the total amount of time patients spent in the OIC on their chemotherapy day will also be evaluated. Further, a staffing satisfaction survey was completed to evaluate the batching process. Data will be recorded and maintained confidentially within REDCap.

Results

To be described

Conclusions

To be described

Wines, Kahari

Justification and Expansion of Pharmacist Services after Implementation of Pharmacy Directed Intervention Categories

Wines, Kahari - Author[1]; Claxon, Evan - Co-Author[1]; Burgess, Hayley - Co-Author[2]; Kramer, Joan - Co-Author[2]; Borum, Cindy - Co-Author[2]
[1]UTHSC/ HCA Healthcare, [2]HCA Healthcare

Background/Purpose

Understanding the optimal clinical pharmacist services model is a continued effort among health systems. Clinical surveillance software can be used to notify pharmacists of clinical opportunities to maximize workflow efficiency. Optimized workflows result in a reduction in adverse events, cost savings and improved patient clinical outcomes. The purpose of this quality improvement project is to retrospectively evaluate the impact of clinical surveillance interventions on pharmacist workflow before and after implementation of a pharmacy directed prioritization category for a large health system. Findings will contribute to a financial evaluation of pharmacist productivity.

Methods

In 2021, a large health system began a clinical pharmacy workflow optimization project for 174 hospitals by selecting and moving specific high and routine clinical pharmacist interventions to a new pharmacy directed prioritization category. The pharmacy directed prioritization category was defined as clinical interventions that pharmacists were able to resolve via facility policy or protocol, and that when acted upon in a timely manner may result in medication cost savings. This retrospective quality improvement project is a pre-post analysis of de-identified, pre-populated data for the pre-implementation time period of January to August 2021 compared to the post-implementation time period of October to December 2021. The primary outcome is to assess clinical pharmacist workflow productivity. A secondary outcome is financial evaluation of pharmacist time versus drug spend for pharmacy directed interventions to inform financial resiliency efforts.

Results

To be completed

Conclusions

To be completed

Woolfolk, Kelsea

Impact of physician-pharmacist collaboration on change in A1c in patients with uncontrolled diabetes across a large national health-system

Woolfolk, Kelsea - Author[1]
[1]Ascension Saint Thomas

Background/Purpose

Medication complexity, including the need for frequent titrations, is a common barrier to achieving optimal glycemic control in diabetes. Numerous studies have demonstrated the impact of physician-pharmacist collaboration on glycemic control in such patients; however, those studies have only assessed patients at the local or regional level. To our knowledge, this will be the first study to analyze the impact of physician-pharmacist collaboration on glycemic control across a large, national health system. The purpose of our trial is to evaluate the impact of a physician-pharmacist collaboration on change in A1c in patients with uncontrolled diabetes by comparing outcomes between pharmacist collaborative practice and physician-only managed care.

Methods

This study is a retrospective, multisite, observational cohort study across Ascension Ministries from patients enrolled from January 1, 2019 to December 31, 2020. Eligible patients include adults greater than 18 years of age with a diagnosis of diabetes, and a hemoglobin A1c ≥9% at the time of referral to the clinical pharmacy specialist. The primary outcome is the change in A1c between the pharmacist collaborative group and physician-only managed group (usual care) at six months. Major exclusion criteria include patients without at least two A1c readings within one year. Prespecified subgroup analyses will examine insurance status and appointment type, such as face-to-face or telehealth. Data will be collected using enrolled patients' electronic health record. Continuous data will be analyzed using a Student’s T-test. Categorical data will be analyzed using a Chi squared test.

Results

Currently, we have preliminary data for 367 patients in the pharmacist-physician collaboration group and 1002 in the usual care comparator group. For those with uncontrolled diabetes with an A1c >9%, the pharmacist-physician collaborative group was able to reduce A1c by 3.0% at six months versus 2.0% in the usual care group.

Conclusions

Based on these preliminary results, among patients with uncontrolled diabetes, patients managed under pharmacist-physician collaboration achieve a great reduction in A1c compared to usual care.

Wren, Callyn

Effect of Reduced Fluoroquinolone Use on Cephalosporin Use and Resistance

Wren, Callyn - Author[1]; Cowper, Jill - Co-Author[2]; Greer, Nickie - Co-Author[2]; Goldin, Laurel - Co-Author[3]; Perry, Alicia - Co-Author[3]; Burgess, Hayley - Co-Author[3]; Watson, Troy - Co-Author[3]; Blanchard, Jackie - Co-Author[3]
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Background/Purpose

The widespread use and misuse of fluoroquinolone antibiotics for their broad-spectrum of activity and ease of administration led to concerning rates of resistance. From 1999-2010, E. coli resistance to ciprofloxacin increased from 3% to >25% in British Columbia. In 2016, Talan et al. identified fluoroquinolone resistance of 6.3% and 19.9% in uncomplicated and complicated pyelonephritis, respectively. Following emerging data on resistance and adverse effects, our health system began reducing fluoroquinolone use in 2018 and encouraging utilization of alternative broad-spectrum antibiotics. This study aims to evaluate if the decrease in fluoroquinolone use is associated with an increase in 3rd/4th-generation cephalosporin use.

Methods

This study is a retrospective descriptive analysis evaluating fluoroquinolone and cephalosporin prescribing practices across a large healthcare system. Patients ≥18 years old who were discharged from July 2018 to June 2021 will be included in the study. Patients will be excluded if they were admitted to a facility not utilizing computerized provider order entry. Data to be collected will include patient demographics, fluoroquinolone and cephalosporin administrations, indications for antimicrobial orders, microbial cultures & results and patient outcomes. The primary objective of this study is to evaluate the change in prescribing practices for fluoroquinolones and 3rd/4th-generation cephalosporins within a large healthcare system by assessing differences in days of therapy. Secondary objectives include rates of resistance, Clostridioides difficile infections and sub-group analyses based on antibiotic indication. This study has been approved by the Institutional Review Board.

Results

Results to be described

Conclusions

Conclusion to be described

Wuerger, Angela

Effect of vancomycin plus piperacillin-tazobactam on the incidence of acute kidney injury in obesity

Wuerger, Angela - Author[1]; Bowden, Jarred - Co-Author[1]; Mitchell, Anna - Co-Author[1]; Marler, Jacob - Co-Author[1]
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Background/Purpose

Although there is evidence of nephrotoxic effects with the use of VPT, these effects have not been well-defined in the obese population. Obese patients display significant differences in pharmacokinetic properties such as altered volume of distribution and renal clearance of medications. The purpose of this study is to determine the efficacy and safety of VPT administration to obese patients.

Methods

This was a multicenter retrospective cohort study of patients admitted to hospitals within the VA Midsouth Healthcare Network from January 1, 2011 to January 25, 2022. Adult obese patients were included if they received the combination of VPT (study group) or vancomycin plus either cefepime, meropenem, or ceftazidime (control group) for more than 24 hours. Exclusion criteria included patients with baseline creatinine clearance <30mL/min, unresolved acute kidney injury (AKI) at time of study drug administration, or in-hospital cardiac arrest within 30 days. Data collected included baseline characteristics, components of Charlson Comorbidity Index, administration of nephrotoxic agents, antibiotic duration, initial vancomycin dosing, variables needed to identify AKI, need for hemodialysis, and infection source. The primary outcome was the AKI rate between patients in the control group versus study group.

Results

Preliminary results included 52 patients in the control group and 115 in the study group. Overall, average age was 66 years old, almost 50% of patients were African American, and the average BMI was 35. The most common source of infection in both groups included pulmonary and wound. The primary outcome of AKI was higher in the VPT group (36.5% vs 13.5%). The average duration of combination therapy was 3.8 versus 4.2 days, and 67% versus 77% of patients received at least one nephrotoxic agent, in the control and study groups respectively. Data collection is ongoing. Statistical significance will be calculated upon completion of data collection.

Conclusions

Pending completion of data collection and analysis.

Xu, Pam

Evaluating impact of a discharge bedside medication delivery program on 30-day readmission rates for high-risk disease states

Xu, Pam - Author[1]; Hasford, Erika - Co-Author[1]; Gibbs, Rebecca - Co-Author[1]; Keller, Drew - Co-Author[1]; McElroy, Laura - Co-Author[1]; Binkley, Jeff - Co-Author[1]
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Background/Purpose

30-day readmissions is a measure that Centers for Medicare and Medicaid Services (CMS) uses to assess a hospital's quality of care and factors into reimbursement for healthcare services. Hospitals track readmissions rates for six high-risk disease states. One strategy that hospitals have implemented in an effort to decrease readmissions is bedside medication delivery, or meds-to-beds. This project aims to assess if patients admitted with a high-risk condition who received bedside medication delivery at discharge were readmitted at a lower rate than those who did not have discharge medications filled at the hospital.

Methods

Admissions and 30-day readmissions for fiscal year 2021 were pulled for patients diagnosed with acute myocardial infarction (MI), chronic obstructive pulmonary disease (COPD), heart failure (HF), pneumonia, and elective primary total hip arthroplasty and/or total knee arthroplasty (THA/TKA). Hospital outpatient pharmacy records were pulled and matched to readmissions data, and subgroups of patients were further analyzed based on the indexed diagnosis. The primary outcome was the difference in 30-day readmission rate in patients admitted for AMI, COPD, HF, pneumonia, and elective THA/TKA who participated in bedside medication delivery versus those who did not. Secondary outcomes include analysis of readmissions within each condition subset and length of stay. Statistical analyses were conducted using Chi-square and student's t-tests.

Results

Based on the analysis of 1507 patients admitted with the target diagnoses, the rate of readmission between patients who received meds to beds and those who received external pharmacy services did not differ significantly. Subgroup analyses did not indicate differences in readmission based on disease state except that patients readmitted with CHF had significantly longer hospitalizations (4.7 vs 3.6, p=0.003). 101 patients received financial assistance for discharge medications.

Conclusions

Bedside medication delivery alone was not associated with reduction in readmissions. Meds to beds should be part of a multi-pronged approach to target reducing readmissions and can be used as a mitigation strategy for patients at highest risk of readmission by providing medication access.

Yang, Danny

To Push or Not to Push: Evaluating the Use of Ketamine IV Push vs Continuous Infusion in ICU patients

Yang, Danny - Author[1]
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Background/Purpose

For mechanically ventilated patients, achieving and maintaining adequate levels of analgesia and sedation is a fundamental component of ICU care. Ketamine, an NMDA receptor antagonist, has been shown to reduce cumulative dosing requirements of concomitant analgesic-sedative infusions while maintaining or increasing time spent within goal sedation range. The purpose of this study was to examine the clinical impact of two different ketamine formulations for maintenance analgosedation in mechanically ventilated patients in the ICU.

Methods

To accurately analyze our outcomes of interest, there were three comparison groups: those who received ketamine infusion only (Group 1), those who received ketamine IV push only (Group 2), and those who received both formulations during their admission (Group 3). The primary endpoint was whether IV push ketamine provides a similar attainment of RASS goals as ketamine given as an IV infusion. Secondary endpoints assessed were the mean time spent at RASS goal in 48 hours after ketamine initiation and the mean fluid status during ketamine use. The study period was from March 2020 through October 2021.

Results

52 total patients were included in the study. Within the 3 groups, 55% of patients in Group 1 achieved goal RASS within 48 hours after ketamine initiation, compared to 83% of patients in Group 2 and 67% in Group 3. The mean time spent at goal RASS within 48 hours after ketamine initiation was approximately 12.5 hours in Group 1, 14.25 hours in Group 2, and 14.22 hours in Group 3. For overall fluid status, Group 1 had a net intake and output of +1958 mL compared to -805 mL in Group 2 and +1511 mL in Group 3.

Conclusions

Compared to ketamine infusions, more patients who received ketamine by IV push achieved their RASS goal in 48 hours and spent more time within target RASS range. Moreover, the use of ketamine pushes have shown to reduce overall volume load in patients, which may assist with reducing the duration of mechanical ventilation.

Yemets, Masha

Efficacy of Standard versus High-Dose Ceftaroline in Combination with Daptomycin for Refractory Methicillin-Resistant Staphylococcus aureus (MRSA) Bacteremia

Yemets, Masha - Author[1]; Derringer, Jon - Co-Author[1]; Roe, Neil - Co-Author[1]
[1]Baptist Health Medical Center

Background/Purpose

MRSA bacteremia carries a high morbidity and mortality rate. Vancomycin is the preferred treatment in most scenarios, but vancomycin failure from factors such as poor tissue penetration, slow bactericidal effect, and organism resistance may lead to refractory infections. Other therapies such as combination use of daptomycin with ceftaroline have shown promising results in persistent bloodstream infection that have failed to improve on primary treatment options. While daptomycin is approved for the treatment of bacteremia, ceftaroline is not and different dosing schedules of ceftaroline have been used. There is limited data regarding the optimal dose of ceftaroline when used in combination with daptomycin for MRSA bacteremia. Therefore, we designed a study to compare the impact of high dose (600 mg every 8 hour equivalent) versus standard dose (600 mg every 12 hour equivalent) dosing regimens of ceftaroline, in combination with daptomycin, on patient outcomes for refractory MRSA bacteremia.

Methods

This is a retrospective case-control study of patients from two community hospitals. Patients who were discharged from October 2012 to August 2021 were screened for study inclusion. Adult patients were included if they received the combination therapy of ceftaroline with daptomycin for documented refractory MRSA bacteremia. Patients were divided into two groups based upon receipt of high dose (HD) or standard dose (SD) regimens. Groups were compared to determine the difference in the primary outcome of time to microbiological cure. Secondary outcomes include inpatient mortality, length of stay, and recurrent bacteremia within 90 days.

Results

To date, 88 patients have been screened for study inclusion with 34 patients meeting criteria. Average time to culture clearance in the HD cohort (n=10) is 2.78 hours and for the SD cohort (n=24) is 2.98 hours. Data collection is ongoing and descriptive statistics will be performed upon completion.

Conclusions

For the present study, preliminary data indicates similar time to culture clearance in HD and SD groups. The impact of these dosing regimens on patients with refractory MRSA bacteremia requires further investigation in this study and others.

Zhao, Ziying

Assessment of the Implementation of Pharmacogenomic (PGx) Testing in Oncology Patients at a Medical Center

Zhao, Ziying - Author[1]; Oliver, Catherine - Co-Author[1]; Bristow-Marcalus, Suzanne - Co-Author[1]
[1]Ochsner Medical Center

Background/Purpose

Traditionally, drugs are developed under the premise of exhibiting similar pharmacokinetic profiles across populations. Pharmacogenomics (PGx) is the understanding of how genetics contribute to variation in patient response to drugs. Variations in patient DNA allow clinicians to predict varying responses to drugs. PGx is increasingly incorporated into drug development, labeling, approval, and clinical practice guidelines. The U.S. Food and Drug Administration (FDA) currently recommends PGx testing prior to therapy initiation for multiple drugs as seen in label sections and boxed warnings. PGx is considered a part of precision medicine because it provides a way for providers to prescribe certain medications based on a person's genetic information. Genomic assay of tumors is a standard of care in oncology, making oncology one of the most active areas of PGx research. This study evaluates retrospective data to assess the implementation outcomes of the PGx testing program which utilizes a preemptive-reactive model. Testing genes preemptively guides pharmacological therapy selection and dosing, while testing the genes reactively gives the opportunity to modify ongoing medications if needed based genetic results. The clinical actions as result of PGx testing, including but not limited to therapy modification, can ensure the best outcomes for patients by reducing delays in therapy, increasing medication efficacy, and reducing side effects.

Methods

This retrospective, descriptive study will be conducted at ambulatory care clinics within the Ochsner Health System (OHS), with data collected from May 2021 to January 2022. PGx analyses will be performed for 250 oncology patients diagnosed with solid tumors including gastrointestinal (GI) or head and neck cancer. This study investigates the effect of preemptive/reactive PGx testing of 17 pharmacogenes assessed in oncology patients. The outcomes analyzed will be based on the changes implemented after pharmacists use PGx analyses with their knowledge of genetic variabilities to guide medication selection. The primary study outcome is therapy modification as result of PGx testing. Secondary outcomes are the number of dose adjustments made post-PGx testing and PGx neutropenic metric. Evaluation for all outcomes utilized descriptive statistics.

Results

Results pending

Conclusions

Conclusions will be drawn upon the availability of results