MIDSOUTH PHARMACY RESIDENTS CONFERENCE

ABSTRACTS

MidSouth Pharmacy Residents Conference 2025

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Abbott, Wendee

Evaluating Differences in AUC Values Estimated by Trapezoidal, ClincCalc Bayesian, and VancoPK Calculation Methods in Adult Patients on Vancomycin

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Background and Purpose

The 2020 revised consensus guideline on the therapeutic monitoring of vancomycin for serious MRSA infections recommends using area under the curve (AUC) guided monitoring and dosing. The preferred approach is to collect both peak and trough levels and utilize Bayesian derived AUC monitoring. The guideline suggests that a trough level alone may be sufficient, but additional data are needed to confirm this. Collecting two levels increases the workload for medical staff, raises healthcare costs, and causes patient discomfort. Recent studies suggest that using a single steady-state trough with the VancoPK model produces similar AUC values. The purpose of this study was to evaluate the precision of estimating area under the curve values using both peak and trough versus trough only concentrations.

Methods

This retrospective, observational study was conducted between October 1, 2024 and December 31, 2024 using data from one acute care facility. AUC values for a total of 129 patients were included in the analysis. Peak and trough AUC values were calculated using the trapezoidal method, while trough AUC values were calculated using ClinCalc Bayesian and VancoPK methods.

Results

The ClinCalc AUC values were within the set bounds 45% of the time, whereas the VancoPK AUC values met the criteria only 41.9% of the time. The classification categories (<400, >600, and in-range) matched between ClinCalc and trapezoidal pea-trough AUC 77.5% of the time, and between VancoPK and trapezoidal peak-trough AUC 78.3% of the time.

Conclusions

This study does not demonstrate that the ClinCalc and VancoPK AUC calculation methods are as precise as the trapezoidal peak-trough calculation method. Therefore it does not support the use of trough-only monitoring for AUC-guided monitoring and dosing.

Abdullah, Elma

Impact of Pharmacist-Led Hepatitis C Service on Cure Rates in a Federally Qualified Health Center

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Background and Purpose

Previous studies have demonstrated that specialized pharmacy teams improve sustained virologic cure rates in chronic hepatitis C (HCV) patients. However, limited data exist on HCV cure rates in federally qualified health centers (FQHCs), which serve disproportionate numbers of low-income patients. This study evaluates an interdisciplinary pharmacist-led HCV treatment model's impact on virologic suppression rates, independent of race or socioeconomic status.

Methods

This was a retrospective, observational study using internal tracking efforts and electronic health record data. Inclusion criteria included patients with a positive HCV RNA level for whom an in-house HCV order was placed to the pharmacy team. Exclusion criteria included any patients who had a current or prior episode of decompensated cirrhosis. The primary endpoint was successful linkage to care and treatment since implementation of the service began in 2021. Descriptive statistics, ANOVA, Chi-square tests, and Kaplan-Meier survival analysis were utilized for data analysis.

Results

Out of 307 patients, 163 (53.1%) were linked to HCV treatment and achieved sustained virologic response after 12 weeks (SVR12). Patients achieving SVR12 had a demographic profile similar to the state department of health reports. The baseline characteristics included predominantly male (n = 100), non-Hispanic or Latino (n = 154), white (n = 141), and aged between 30 and 70 years (n = 150). Most treated patients had Genotype 1A (n = 109) and exhibited no fibrosis (n = 80). Most treated patients (n = 108) had prescription coverage through non-Medicare or state-funded Medicaid insurance. The most utilized direct-acting antiviral therapy was sofosbuvir/velpatasvir for 12 weeks (n = 73). Most patients (n = 99) who were not linked to treatment were lost to follow-up, 14 (10%) were not treated due to state Medicaid restrictions, and 18 (12%) were referred to a specialist.

Conclusion

A pharmacist-led service to link patients to HCV treatment provides a successful model to increase HCV cure rates in an FQHC. Previous studies indicate similar cure rates utilizing a similar model. The results emphasize the importance of using pharmacists in enhancing health outcomes in an underserved and vulnerable population.

Abington, Symone

Community Perceptions of Pharmacist-Administered Cognitive Screenings

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Background/Purpose

As of 2017, the Southeastern U.S. has the highest age-adjusted death rates from dementia, with Mississippi leading at 48.5 deaths per 100,000 individuals in 2022. Early detection of cognitive decline is crucial for timely interventions and improved quality of life. Given the growing older adult population and the shortage of geriatricians, it is essential to explore diverse strategies for disease identification, aligning with the Healthy People 2030 dementia-related objectives. Pharmacists are well-positioned to conduct cognitive screenings and promote early interventions. This study aims to evaluate community members' perceptions of pharmacist performing cognitive screenings.

Methods

This study included community-dwelling adults aged 50 years or older, without a formal dementia diagnosis and not prescribed any dementia-related medication(s). Participants completed a 24-question anonymous questionnaire which evaluated perceptions of pharmacists administering cognitive screenings. The survey collected patient demographics and assessed the perceived advantages and disadvantages of this pharmacist-led service. Surveys were completed either digitally via Qualtrics, on paper, or via scribe. Data is analyzed using descriptive statistics.

Results

While data collection is ongoing, a total of 31 participants met the inclusion criteria and completed the survey. Majority of the participants were Black/African-American (93.5%), females (87.1%), and aged 50-65 years old (54.8%). A total of 77.4% (n=24/31) participants would be willing to have their memory tested by a trained pharmacist. While 58.1% (n=18/31) would be comfortable reviewing the screening results with the pharmacist, 74.2% (n=23/31) would prefer to review with their provider. Additionally, 90.3% (n=28/31) of participants would prefer to be referred to their physician for follow-up. Factors that could prevent community members from utilizing this service include concerns about pharmacist training (6.7%, n=2/31) and timing (10%, n=3/31). This study was granted exempt status by the University of Mississippi Institutional Review Board.

Conclusion

Preliminary results indicate community members would utilize a pharmacist-led cognition screening, provided the pharmacist is properly trained and collaborates with a physician for further care.

Austin, Whitney

Comparative Analysis of Propofol versus Midazolam on Early Vasopressor Requirements in Patients with Septic Shock

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Background and Purpose

Propofol and midazolam are two common agents used for sedation in patients requiring mechanical ventilation. The 2018 Clinical Practice Guidelines for the Prevention and Management of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption in Adult Patients in the ICU recommend nonbenzodiazepine sedative agents over benzodiazepine-based regimens due to improved short and long term patient outcomes. The use of propofol can be limited by its hypotensive effect requiring use of vasopressors or a switch to benzodiazepine therapy. Despite their frequent use, there is limited evidence directly comparing the impact of propofol versus midazolam on the amount of vasopressors required in patients with shock. The purpose of this study was to compare propofol versus midazolam on vasopressor requirements in the first 72 hours in patients with septic shock.

Methods

This was a single-center, retrospective cohort study of adult patients who presented to the emergency room from April 1st, 2022 to July 31st, 2024, who experienced shock, received rapid sequence intubation in the emergency department, and were initiated on continuous sedation. The primary outcome was total norepinephrine equivalents required in 72 hours from intubation. The secondary outcomes were ICU length of stay, hospital length of stay, in-hospital mortality, time to extubation and time to vasopressor discontinuation.

Results

A total of 50 patients were included: 30 patients on midazolam and 20 patients on propofol. There was no statistically significant difference in the primary outcome of total norepinephrine equivalents required in 72 hours after intubation when comparing propofol to midazolam (0.19 vs 0.764, $p = 0.116$). However, midazolam, numerically, required higher norepinephrine equivalents when compared to propofol. There were no statistically significant differences among the secondary outcomes.

Conclusion

Sedation with propofol does not increase the cumulative vasopressor requirements within the first 72 hours from sedation initiation compared to sedation with midazolam following RSI in the emergency department.

Bellamy, Ashton

Evaluation of the Risk of Recurrent Cefepime-Resistant Bacteremia in Pediatric Patients Receiving Hematopoietic Cell Transplantation

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Background/Purpose:

Children undergoing hematopoietic cell transplantation (HCT) are at high risk for antimicrobial-resistant infections. Because past resistant infection is a strong predictor of future episodes, current guidelines recommend modifying empiric antimicrobial regimens based on prior resistant infections, often leading to broad-spectrum therapies being utilized. However, even in profoundly immunocompromised pediatric HCT patients, not all subsequent febrile episodes are associated with recurrence of multidrug resistant infections. No high-quality data are available to guide the selection of empiric antimicrobials in the setting of patients receiving an HCT with a history of multidrug resistant bloodstream infections in a subsequent febrile presentation. The goal of this study was to estimate the proportion of recurrent, cefepime-resistant (CR), Gram-negative infections in febrile post-HCT subjects with a prior CR infection, and to investigate associations between clinical characteristics and risk of recurrent infection.

Methods:

This retrospective cohort study evaluated children and adolescents (<24 years) who had a CR, Gram-negative bacteremia before or shortly after undergoing HCT between January 2010 and September 2022. We collected patient demographics, primary diagnosis, HCT details, presenting signs and symptoms, microbiological data, and antibiotic information for the initial CR bacteremia episode and for all subsequent post-HCT febrile events, regardless of neutropenic status, up to 100 days post-transplant. Recurrent episodes were excluded if the patient received empiric treatment antibiotics within 48 hours prior to a new febrile episode.

Results:

We identified 63 unique participants, and 60 evaluable recurrent febrile episodes. Recurrent CR infection occurred in 13/60 (21.7%) post-transplant febrile episodes. Thirty-eight of 60 (63.3%) episodes were culture negative, and 9/60 (15%) episodes were positive for a discordant bacterium (e.g., cefepime-susceptible or Gram-positive). Hypotension was significantly associated with an increased risk of recurrent CR infection (P=0.004). No other clinical features were associated with an increased risk of a recurrent CR infection.

Conclusion:
Children and adolescents with a history of CR bacteremia who present with fever post-HCT are at risk of having another CR infection. Those without high-risk features at presentation are at markedly lower risk. Further research should aim to validate these findings, with the goal of developing risk stratification models to guide empiric therapy post-transplant.

Bennett, Lorene

Comparison of dextrose 5% in water versus desmopressin for the management of serum sodium electrolyte imbalance overcorrection

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Background/Purpose

Current literature supports a sodium correction rate of 6-12 mmol/L in the first 24 hours and 18 mmol/L or less in 48 hours in patients with severe symptomatic hyponatremia. When the correction rate exceeds these parameters, agents such as dextrose 5% in water (D5W) and desmopressin (DDAVP) have been utilized to slow the correction of sodium during hyponatremia management. Expert Panel Recommendations include relowering serum sodium using intravenous DDAVP 2-4 mcg every 8 hours in combination with intravenous D5W 3 mL/kg/hr. The purpose of this study was to compare the efficacy of D5W to DDAVP in the management of overcorrection of hyponatremia.

Methods

This was a single-center, retrospective chart review of selected patients who previously received either D5W or DDAVP while being treated for hyponatremia between the dates of January 1, 2022 and December 31, 2023. The primary outcome was sodium correction rate expressed as millimoles per liter per hour (mmol/L/hr) from time of first dose of either D5W or DDAVP to 24 hours post-dose. Data was categorized as less than or equal to 0.5 mmol/L/hr or greater than 0.5 mmol/L/hr for statistical analysis.

Results

A total of 38 patients met inclusion criteria. A total of 16 subjects were given D5W and 22 subjects were given DDAVP. Within those groups, 46 sodium correction rates were calculated, as some subjects received several doses greater than 24 hours apart. Patients were an average age of 70 years, 13/38 (34%) were male and had an average serum sodium on admission of 116 mmol/L. For the primary outcome, 100% of subjects that received DDAVP and 94% of subjects that received D5W had a correction rate of 0.5 mmol/L/hr or less at 24 hours post dose. One subject in the D5W group had a sodium correction rate that exceeded 0.5 mmol/L/hr. Sodium correction rates between groups were not statistically significant (p-value 0.391).

Conclusion

Sodium correction rates were similar between patients that received D5W versus DDAVP. Both D5W and DDAVP appear to be effective at slowing the correction of sodium during hyponatremia management. Most patients meeting inclusion criteria were excluded due to receiving both D5W and DDAVP in the same 24 hour period, resulting in a small sample size. Other limitations include lack of cost analysis between agents and lack of sodium correction trending beyond 24 hours. More studies are needed to further compare the efficacy of D5W versus DDAVP.

Bommarito, Julia

Rate of Recurrent Genitourinary Tract Infections with Sodium-Glucose Co-transporter 2 Inhibitors among Diabetic and Non-Diabetic Heart Failure Patients

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Background and Purpose

Sodium-glucose co-transporter-2 inhibitors (SGLT2i) are recommended as part of heart failure (HF) management to reduce cardiovascular death and/or HF hospitalizations. The risk of genitourinary infections (GUI) may limit SGLT2i initiation. Diabetes is a known risk factor for GUI and can be further increased by SGLT2i use. There is limited literature regarding initial and recurrent GUI with SGLT2i in patients without diabetes. The purpose of this study is to evaluate GUI in non-diabetic patients to optimize SGLT2i use in the management of HF.

Methods

This is an Institutional Review Board approved, retrospective, multicentered study of HF patients prescribed a SGLT2i from January 1, 2020 to July 31, 2022. Adult patients with HF with reduced ejection fraction, mildly reduced ejection fraction, or preserved ejection fraction, prescribed dapagliflozin or empagliflozin were eligible. Patients were divided into two groups: diabetic or non-diabetic. The primary outcome was the rate of recurrent GUI between diabetic and non-diabetic patients with HF within 24 months of SGLT2i initiation. The secondary outcome was the rate of SGLT2i discontinuation due to GUI.

Results

A total of 246 patients were included: 96 in the diabetic group and 150 in the non-diabetic group. The incidence of an initial GUI was 12.5% (12/96) and 8% (12/150) respectively. The rate of recurrent GUI was 50% (6/12) in the diabetic group and 42% (5/12) in the non-diabetic group. After the initial GUI, SGLT2i was discontinued in 75% (9/12) in the diabetic group and 16.7% (2/12) in the non-diabetic group. Incidence of recurrent GUI among patients who continued SGLT2i were 100% (3/3) in the diabetic group and 40% (4/10) in the non-diabetic group.

Conclusions

Incidence of recurrent GUI was similar among diabetic and non-diabetic patients with HF. Most non-diabetic patients continued SGLT2i therapy after an initial GUI and less than half had a recurrent GUI. With SGLT2i reducing morbidity and/or mortality in HF, it may be appropriate to continue SGLT2i after an initial GU infection in certain patients. The overall number of recurrent GUI was small; more studies are needed to determine clinical significance.

Brewer, StefaniRae

Evaluating Efficacy and Safety of Early Long-Acting Insulin on the Resolution of Diabetic Ketoacidosis

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Background and Purpose

Diabetic ketoacidosis (DKA) is a life-threatening hyperglycemic emergency in individuals with type 1 or type 2 diabetes.[1] Traditionally, DKA is managed with fluids and a titratable insulin infusion. In the 2024 guideline update, the American Diabetes Association gives note to the emerging practice of administering long-acting insulin (LAI) during the insulin infusion.[2] Opponents to administering early LAI in DKA have cited an increased risk of hypoglycemia and hypokalemia.[2] Studies analyzing this practice have conflicting results. This study aims to assess the efficacy and safety of early subcutaneous LAI in adult patients with DKA.

Methods

This is a single-health system, multi-site, retrospective study of adult patients admitted to the Methodist Le Bonheur Healthcare system with DKA. The primary outcome was the average time to DKA resolution for patients who received LAI within 6 hours of insulin regular infusion initiation versus those who received LAI greater than 6 hours after initiation. Key secondary outcomes included intensive care unit (ICU) and hospital lengths of stay (LOS), duration of insulin infusion, dose of LAI administered, and adverse effects of insulin administration.

Results

Ninety-three patients receiving IV insulin for DKA met inclusion criteria. The early LAI group (n=55) received on average, 0.2 units/kg of LAI. The late LAI group (n=38) received 0.28 units/kg of LAI. Time to DKA resolution was 10.2 hours in the early LAI and 14.6 hours in the late LAI ($p<0.001$). Median ICU length of stay was 0.8 days in the early LAI group and 1.1 days in the late LAI group ($p=0.094$). Median hospital length of stay in early LAI was 3 days and 2.85 days in late LAI ($p=0.257$). Seven patients in the early LAI group and two in the late LAI group experienced hypoglycemia ($p=0.231$). Rates of hypokalemia (9 vs 8; $p=0.565$) were similar between LAI administration groups.

Conclusions

Administration of early LAI during insulin infusion resulted in a significant reduction in time to DKA resolution. Early LAI administration resulted in shorter ICU LOS though not statistically significant. There were more occurrences of hypoglycemia with early LAI although this was not significant. Incidence of hypokalemia was similar between the two groups.

Bridge, Larson

Pharmacogenomics Guided Clopidogrel Utilization in Veterans Undergoing Peripheral Arterial Intervention with Vascular Surgery Compared to Usual Care

Bridge, Larson; Keller, Seth; Neu, Daniel; Marler, Jacob
Lt. Col. Luke Weathers, Jr. VA Medical Center; Memphis, TN

Background and Purpose

Patients with peripheral arterial disease (PAD) undergoing lower extremity revascularization procedures are at risk for recurrent ischemic limb events. Guidelines suggest dual antiplatelet therapy with aspirin plus clopidogrel is reasonable to reduce this risk. However, patients with genetic variants in *CYP2C19* receiving clopidogrel may have poor outcomes due to reduced active metabolite formation and high platelet reactivity. Pharmacogenomic (PGx) testing can identify patients that should receive an alternative P2Y12 inhibitor, but data is limited in the PAD population. This descriptive study will provide information on PGx-guided care in PAD patients.

Methods

This is an Institutional Review Board-approved retrospective, multicenter study of adult patients treated at the Lt. Col. Luke Weathers, Jr. VA Medical Center (VAMC) or the Kansas City VAMC. Patients who underwent peripheral arterial intervention from January 1st, 2020 through May 1st, 2025 and were prescribed a P2Y12 inhibitor were included. Patients were grouped into those who received PGx testing (test group), and those who did not (control group). Patients with carotid or hemodialysis interventions and those on rivaroxaban 2.5 mg were excluded. Patients were followed for up to 12 months postoperatively for outcomes.

Results

To date, 22 patients have been included in the PGx group and 57 patients in the control group. Overall, more than 95% of patients were receiving clopidogrel at baseline. Baseline characteristics, comorbidities, and revascularization procedures were similar among groups, except there were significantly more smokers in the control group (64.9% vs 40.9%; p=0.05). In the PGx group, recommendations to change clopidogrel to an alternative P2Y12 inhibitor were made in 8 patients (36.4%) with 87.5% accepted. No differences were found at 12 months in limb-related events (50% vs 35.1%; p=0.22), MACE (13.6% vs 8.8%; p=0.68), or bleeding (13.6% vs 15.8%; p=1.0) in the PGx and control groups, respectively. Notably, in the 7-to-12-month time period, total ischemic events were higher in the control group (0% vs 17.5%; p=0.05). In the PGx group, ischemic events occurred in 7 patients (50%) before PGx interventions could be implemented.

Conclusion

Data collection is ongoing; preliminary data indicate no difference in ischemic events and a potential area for improvement with time to PGx intervention.

Bridges, Bailey

Optimizing MRSA-active Agents in the Pediatric Intensive Care Unit

Jones, Sara, Wingler, Mary Joyce, Mays, Whitney, Hamner, Megan
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Background and Purpose:

Vancomycin is commonly used in pediatric intensive care units (PICUs) to treat methicillin-resistant *Staphylococcus aureus* (MRSA). While previous interventions in children's hospitals have successfully targeted vancomycin use, none have incorporated MRSA nasal polymerase chain reaction (PCR) testing. The MRSA PCR has been shown to reliably rule out MRSA infection and reduce vancomycin therapy duration in adults, but data in children is limited. This study aimed to evaluate the impact of a multi-faceted intervention, including MRSA PCR, on vancomycin therapy in the PICU at Children's of Mississippi. The intervention also included MRSA coverage guidelines and prospective audit with feedback.

Methods:

This retrospective study included patients under 18 years old who received vancomycin in the PICU between January 1, 2019, and June 30, 2024. Exclusion criteria included neonates, patients with necrotizing enterocolitis, and those who received MRSA coverage antibiotics prior to admission. Additional exclusions included patients who died within 72 hours of therapy initiation and those with cystic fibrosis, COVID-19, or immunocompromised conditions. The primary outcome was vancomycin days of therapy (DOT) before and after the intervention. Secondary outcomes included acute kidney injury (AKI), hospital length of stay, and MRSA PCR sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV).

Results:

A total of 251 patients were included, with 126 in the pre-group and 125 in the post-group. The median age was 2 years, and 60% were mechanically ventilated. The most common indication for vancomycin was sepsis of unknown origin (47.0%). Vancomycin DOT was 4 days in both groups ($p=0.033$), but for patients without confirmed MRSA infection, the duration was shorter in the post-group (4 days vs 3 days, $p=0.009$). More patients in the post-group had vancomycin discontinued at 72 hours (38.9% vs 61.6%, $p<0.001$). No significant differences were observed in secondary outcomes. The MRSA PCR sensitivity, specificity, PPV, and NPV were 66.7%, 92.7%, 34.5%, and 98.3%, respectively.

Conclusions:

This intervention in PICU patients at Children's of Mississippi led to more rapid vancomycin discontinuation and shorter therapy durations in patients without confirmed MRSA infection. The MRSA PCR demonstrated a high negative predictive value, supporting its use as an antimicrobial stewardship tool.

Brock, Logan

Comparing Initial Nitroglycerin Doses in the Management of Sympathetic Crashing Acute Pulmonary Edema

Logan Brock, Ana Negrete, Kacie Clark, Michael Reichert
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Background and Purpose

Sympathetic Crashing Acute Pulmonary Edema (SCAPE) is a severe form of acute heart failure, typically treated with bilevel positive airway pressure (BiPAP) and intravenous nitroglycerin. Previous studies show that a high-dose nitroglycerin bolus followed by a continuous infusion of at least 50 mcg/min is effective for SCAPE. However, no studies compare different high-dose strategies or determine if there is a maximum dose for optimal outcomes with minimal risk. This study aims to identify the most effective high-dose nitroglycerin regimen in SCAPE treatment, focusing on the impact of the total dose administered during the first hour.

Methods

This retrospective cohort study reviewed patients at Methodist University Hospital who received intravenous nitroglycerin for SCAPE between August 15, 2022, and August 15, 2024. Inclusion criteria was an initial dose of at least 50 mcg/min and BiPAP use. Patients with end-stage renal disease or who received nitroglycerin for reasons other than SCAPE were excluded. Patients were divided into three groups based on total nitroglycerin dose within the first hour: <6000 mcg, 6000-12000 mcg, and >12000 mcg. The primary outcome was time to the first documented use of a nasal cannula or room air for oxygenation.

Results

A total of 124 patients were included, with a mean age of 62 years. The cohort was 61% male and 92% African American/Black. Common comorbidities included hypertension (83%), heart failure (63%), and chronic kidney disease (31%). Patient distribution across groups was as follows: 77 in the low-dose (<6000 mcg), 41 in the medium-dose (6000-12000 mcg), and 6 in the high-dose (>12000 mcg). The mean time to nasal cannula or room air was 8.6 hours for the low-dose group, 9.8 hours for the medium-dose group, and 8.4 hours for the high-dose group (p=0.83).

Conclusions

No significant difference was found in time to discontinue BiPAP between dosing groups. The total nitroglycerin dose within the first hour did not appear to impact the time to discontinuation of BiPAP.

Burbridge, Claire

Assessment of Outpatient Gabapentinoid Dosing for Neuropathic Pain

Burbridge, Claire; Brandl, Emily; Goggans, Margaret
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Background/Purpose

Gabapentinoids, including gabapentin and pregabalin, are first line treatment options for neuropathic pain. When gabapentinoids are used for this indication, they should be trialed for four to six weeks, with at least two weeks at the maximum tolerated dosage. Despite recommendations, gabapentinoids are often not titrated to established minimum effective doses. The primary objective of this study was the percentage of patients who reached appropriate minimum effective dose within one year of gabapentinoid initiation. The secondary outcomes included time to minimum effective dose, time at or above minimum effective dose, adverse drug reactions, adjunctive therapies ordered after initiating gabapentinoid, and pharmacist involvement in gabapentinoid management.

Methods

An SQL report was used to identify adult patients newly prescribed a gabapentinoid from January 1st, 2019 to March 31st, 2023. Minimum effective dose of gabapentin was defined as 1800mg total daily dose, and for pregabalin, 300mg total daily dose. Patients were included once per drug and followed for one year after the initial prescription. Descriptive statistics were used to analyze primary and secondary outcomes.

Results

A total of 484 patients were screened for exclusion criteria to include 100 patients in each group. Two patients in the gabapentin group and thirteen patients in the pregabalin group reached the minimum effective dose. 32% of the gabapentin group and 42% of the pregabalin group had their dose titrated. Patients in the gabapentin group reached an average total daily dose of 561 mg. Patients in the pregabalin group reached an average total daily dose of 198.7 mg. In both groups, 58% of patients discontinued their gabapentinoid within 1 year of initiation. Of discontinued prescriptions, 69% and 48% were due to prescription expiration in the gabapentin and pregabalin groups, respectively. Pharmacists were involved in 0% of gabapentin management, and 5% of pregabalin.

Conclusions

Patients prescribed gabapentinoids are often inadequately titrated to minimum effective dose. More patients prescribed pregabalin reached minimum effective dose than those prescribed gabapentin, however both groups were equally likely to discontinue gabapentinoids within a year of initiation. Patients could benefit from pharmacist involvement in gabapentinoid management, including appropriate dose titration and assessing need for adjunctive therapies.

Burke, Kelly

Perioperative Antibiotic Selection in Children with Penicillin Allergies Before and After a Clindamycin Shortage

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Background and Purpose:

Surgical site infections (SSIs) are a leading complication in pediatric surgery, with antimicrobial prophylaxis being essential for prevention. Despite cefazolin being the preferred agent, reported penicillin allergies often lead to the use of alternative antibiotics, which are associated with higher SSI risk. This study evaluates antibiotic selection in pediatric surgical patients before and after an educational intervention following a national clindamycin shortage.

Methods:

This retrospective pre- and post-group study included pediatric patients with a penicillin allergy who underwent a surgical procedure and received perioperative antibiotics at UMMC from January 1, 2020 to July 31, 2024. The educational intervention, conducted by the Antimicrobial Stewardship Program and the Department of Pharmacy, took place in September 2022 during the clindamycin shortage. The primary outcome of this study was to compare the rate of cefazolin utilization in pediatric surgical patients with a documented penicillin allergy before and after the intervention. Secondary outcomes included rate of allergic reactions to perioperative cefazolin, rates of SSIs and appropriateness of antibiotic administration in patients who receive cefazolin versus alternative antibiotics, including vancomycin and clindamycin.

Results:

A total of 276 patients were included, with 138 patients each group. The median age was 5.5 years. The majority had a low-risk allergy with rash being the most common reaction. There were significantly more patients in the post-group that received cefazolin compared to the pre-group (27% vs 79%, $p < 0.001$). The majority of patients in the pre-group received clindamycin (72%). No patients had a documented allergic reaction to cefazolin. Due to the high rate of vancomycin and clindamycin use in the pre-group, significantly more patients did not have the perioperative antibiotics completed prior to incision in this group (84% vs 59%, $p<0.001$). No patients had an SSI within 30 days and 2 patients in the post-group had an SSI within 90 days.

Conclusions:

There was a statistically significant increase in cefazolin perioperative use in patients with penicillin allergy during the clindamycin shortage and after education. This increase was linked to improved rates of appropriate perioperative antibiotic administration and was not associated with safety concerns, such as allergic reactions or increased rate of SSIs.

Bush, Victoria

Incidence of Genitourinary Tract Infections with Sodium-Glucose Co-Transporter 2 Inhibitors among Uncontrolled and Controlled Diabetic Patients with Heart Failure

Bommarito, Julia; Ponder, Ally; Gillion, Amanda
Lt. Col. Luke Weathers, Jr. VA Medical Center; Memphis, Tennessee

Background and Purpose

Sodium-glucose co-transporter-2 inhibitors (SGLT2i) reduce cardiovascular events in patients with type 2 diabetes mellitus (DM) and reduce cardiovascular death and heart failure (HF) hospitalizations in patients with HF. SGLT2i have been associated with genitourinary infections (GUI) and hyperglycemia is a contributing risk factor. Providers may omit SGLT2i therapy for HF management in patients with DM due to the perceived risk of GUI. The purpose of this study is to optimize SGLT2i use in HF by discerning if patients with uncontrolled DM have a higher risk of GUI compared to patients with controlled DM.

Methods

This is an Institutional Review Board approved, retrospective, multicentered study of patients with HF and DM prescribed dapagliflozin or empagliflozin from January 1, 2020, to July 31, 2022. Patients with type 2 DM and HF with reduced, mildly reduced, or preserved ejection fraction were enrolled. Patients were excluded if non-compliant with SGL2i or lacked follow-up data. Patients were divided into two groups based on A1c: controlled DM (A1c $\leq$ 8%) or uncontrolled DM (A1c > 8%). The primary outcome was the incidence of GUI within 24 months of SGLT2i initiation. Secondary outcomes included the rate of SGLT2i discontinuation due to GUI and rate of recurrent GU infection.

Results

A total of 96 patients were enrolled: 56 in the controlled DM group and 40 in the uncontrolled DM group. The primary outcome occurred in 11% (6/56) in the controlled DM group compared to 15% (6/40) in the uncontrolled DM group. A total of 75% (9/12) of SGLT2i prescriptions were discontinued following the initial GUI: 4 in the controlled DM group and 5 in the uncontrolled DM group. Rates of recurrent GU infections were similar among groups.

Conclusion

The incidence of GUI after initiation of SGLT2i was numerically higher in the uncontrolled DM group but statistically insignificant. The majority of patients, regardless of A1c, tolerated SGLT2i without a GUI. This study suggests that SGLT2i therapy should not be preemptively avoided in HF patients based solely on uncontrolled DM. Further studies with larger sample sizes are needed to determine clinical significance.

Cappleman, Carly Beth

Evaluation of Health Disparities on HFrEF Readmissions

Cappleman, Carly Beth; Moore, Sarah Beth; Brewster, Amy; Burton, Ginger; Crawford, Allie
Baptist Memorial Hospital – Memphis, Memphis, TN 38018

Background and Purpose

Despite advances in medical treatments, heart failure (HF) continues to be associated with high morbidity, mortality, and frequent hospitalizations. Previous studies have evaluated the possible correlation of social determinants of health and HF outcomes. Over the last several years Baptist Memorial Hospital – Memphis has worked to improve HF outcomes with a focus on decrease in hospital readmissions. Overall hospital readmission rates have decreased, however rates of reduction have varied based on race. This study aims to assess the effect of race and social determinants of health on the incidence of hospital readmissions in patients with HF with reduced ejection fraction.

Methods

This study is a retrospective, single-center chart review of patients admitted to Baptist Memorial Hospital – Memphis for HF from February 1, 2023 to June 1, 2024. Patients who were 18 years or older with an index HF admission were screened for inclusion. Patients were excluded if they had an EF >40%, a history of heart transplant or LVAD, received ICU level care, required surgery during admission, expired during index admission, were discharged to hospice, or had a prior admission within 30 days. The primary outcome was 30-day all cause readmission. The secondary outcomes included 30-day readmission based on race, payor status, and disposition, 90-day all cause readmission, 30-day and 90-day HF readmission and mortality, prescribing of four-pillar guideline directed medication therapy (GDMT) at discharge, and use of consult services.

Results

A total of 480 patients were screened and 150 patients were included. The primary outcome of 30-day all cause readmission occurred in 26 of the 150 patients (17.3%). There was no difference in rates of readmission based on race. Patients readmitted at 30-days had a higher incidence of prior coronary artery disease, atrial fibrillation, and end stage renal disease on renal replacement therapy. There was no difference in patients with a 30-day readmission versus not in terms of payor status, consult services, and GDMT.

Conclusions

BMH-Memphis strives to improve HF outcomes. Continued analysis and interpretation of social determinants of health and the effect on HF readmissions will be a primary focus for future HF initiatives.

Caston, Chasity

Evaluating the Impact of Outpatient Pharmacy Interventions on Hospitalization Rates and Emergency Department Visits in Patients with Heart Failure with Reduced Ejection Fraction

Caston, Chasity and Whitwell, Shanna
Mississippi Baptist Medical Center, Jackson, MS

Background and Purpose

Heart failure with reduced ejection fraction (HFrEF) is one of the most prevalent conditions causing hospitalizations, with medication accessibility and affordability posing significant barriers to optimal management. The 2022 AHA/ACC/HFSA guidelines recommend angiotensin receptor–neprilysin inhibitor (ARNI), a beta-blocker (BB), a mineralocorticoid receptor antagonist (MRA), and a sodium–glucose co-transporter 2 inhibitor (SGLT2i), as first-line treatments, yet many patients, particularly the uninsured, struggle to access these medications. Baptist Family Pharmacy has implemented multiple interventions to improve medication access, including patient assistance programs, manufacturer support, a charity pharmacy initiative, and a pharmacy technician assigned to submit prior authorizations. This study evaluates the impact of outpatient pharmacy-driven interventions at Baptist Family Pharmacy among patients who have HFrEF by comparing hospital admission rates and emergency department (ED) visits to those patients who do not fill at our community pharmacy.

Methods

A retrospective study was conducted, analyzing electronic health records of patients seen in the Baptist heart failure clinic between August 1, 2023, to October 31, 2023. Patients included in the study were individuals at least 18 years of age who had a documented ejection fraction equal to less than or equal to 40% at the start of the study period. Patients with a documented contraindication or allergy to any key medications and an estimated glomerular filtration rate of less than 30 mL/min/1.73 m^2 were excluded. Patient records were reviewed to identify eligible cases, with hospitalization and ED visit rates compared between patients who filled at Baptist Family Pharmacy for at least three consecutive fills and those who filled prescriptions at other pharmacies. Primary study endpoints include the frequency of heart failure-related hospitalizations or emergency department visits and the number of patients who have received assistance from Baptist Family Pharmacy between August 1, 2023, to August 31, 2024.

Results and Conclusion

The study aims to determine whether pharmacy interventions effectively reduce heart failure-related hospitalizations and improve clinical outcomes, potentially informing future strategies to enhance medication access and adherence.

Cavitt, Kathryn

Comparison of Enoxaparin and Unfractionated Heparin for Venous Thromboprophylaxis in Renally Impaired Patients

Cavitt, Kathryn; Clark, Katie; Smith, Grant
North Mississippi Medical Center – Tupelo, Mississippi

Background and Purpose

Hospitalized patients with renal impairment have increased risks for bleeding events and development of venous thromboembolisms (VTEs). Enoxaparin and unfractionated heparin (UFH) are commonly used agents for VTE prophylaxis in hospitalized adults. Both agents are frequently used, but data comparing their use in patients with renal impairment is limited. UFH is less expensive, but its frequent administration makes it more burdensome than the more expensive but less frequently administered enoxaparin. The goal of this study is to determine if enoxaparin is equally efficacious to UFH in the prevention of VTE in patients with renal impairment while minimizing bleeding events.

Methods

This was a retrospective review of patient electronic health records conducted across our institution over a 3-month period for patients with renal impairment who received either enoxaparin or UFH for VTE prophylaxis. The safety, efficacy, ease of use, and cost of these two treatments were evaluated. Patients had to be at least 18 years old, receive at least one dose of enoxaparin or UFH for VTE prophylaxis during hospital admission, and have documented renal impairment, including acute kidney injury (AKI) or chronic kidney disease (CKD), during hospital admission. Participant exclusion criteria was receipt of both enoxaparin and UFH for VTE prophylaxis during hospital admission.

Results

The study included 104 patients (80 enoxaparin vs 24 UFH). In both groups, 1 patient developed a VTE (1.25% enoxaparin vs 4.17% UFH; 95% CI, -0.113-0.054; p = 0.548). In the enoxaparin group, 9 patients (11.25%) experienced a bleeding event compared to 3 patients (12.5%) in the UFH group, demonstrating no statistical significance between the groups (95% CI, -0.162-0.137; p = 0.352). The average cost of enoxaparin per patient was higher than that of UFH ($15.43 vs $9.91) while the average number of administrations per patient was lower (6 vs 15).

Conclusions

Although there were no statistically significant results, the enoxaparin group had a lower incidence of VTE development and bleeding events. The average cost per patient may be higher for enoxaparin, but the average number of administrations reflects a lower burden to workflow.

Chumbler, Christopher

Evaluation of Blood Culture Contaminants and Treatment Impact in the Emergency Department

Chumbler, Christopher - Author; McIntyre, Chasity – Co-Author; Madison, Laura – Co-Author
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Background and Purpose

Contaminated blood cultures can lead to unnecessary exposure to antibiotics and increased risk of adverse events, length of stay, and cost. Baptist Health Paducah set a goal to decrease contamination rates to less than 1.50% after rates increased from 3.62% to 5.19% from 2022 to 2023 in the Emergency Department. The purpose of this study was to determine if new sterile blood sample collection kits and nursing education in the Emergency Department decreased blood culture contamination rates.

Methods

This is a single-center, retrospective study utilizing a pre-post intervention trial design to evaluate the impact of the new sterile blood sample collection kits and focused nursing education on blood culture contamination rates in the Emergency Department. Education and implementation of the kits occurred in August 2024. The pre-intervention period included March – June 2024 and the post-intervention period included September – December 2024. Data extraction was performed using Baptist Health Paducah's electronic health record, Epic. The primary outcome was the blood culture contamination rate and secondary outcomes included rate of empiric antibiotic use, average antibiotic days of therapy and potential cost reduction of empiric therapy.

Results

Blood culture contamination rates were 3.26% versus 3.48% between the pre-post intervention (p=0.7). The rate of antibiotics ordered with an indication of empiric or bacteremia were 27.0% and 24.7% for the pre- and post-intervention, respectively. The pre-intervention data showed an average of 3.4 antibiotic days of therapy whereas the post-intervention data showed an average of 3.9 antibiotic days of therapy. There was a 59.5% increase in vancomycin usage and 19.6% decrease in piperacillin-tazobactam usage. This is associated with a $96.75/day increase in cost with vancomycin and a $4.92/day cost savings for piperacillin-tazobactam usage.

Conclusions

An increase in blood culture contamination rates were observed although not statistically significant. This study shows additional efforts beyond the new sterile blood sample collection kits and education will have to occur to see a reduction in blood culture contamination rates. A secondary benefit may be observed in the decrease of the rate of empiric antibiotic usage of vancomycin and piperacillin-tazobactam in those with contaminated blood cultures.

Colby, Brian

Metabolic Syndrome Risk Factors Associated With Atypical Antipsychotic Prescriber Selection in an Inpatient Setting: A Retrospective Cohort Analysis

Brian Colby
Tennessee Department of Mental Health and Substance Abuse Services - Nashville, Tennessee

Background and Purpose

Metabolic syndrome commonly develops in patients prescribed atypical antipsychotics and is associated with reduced quality of life and greater mortality. It is crucial to weigh the risks and benefits of initiating antipsychotics associated with a significant risk of metabolic dysfunction, and patients at elevated baseline risk may benefit from prescriber initiation of atypical antipsychotics associated with a lower risk of exacerbating metabolic dysfunction.

Methods

This retrospective analysis assessed patient metabolic characteristics and prescriber choice of atypical antipsychotics in an inpatient setting over three months at a single inpatient psychiatric hospital. Atypical antipsychotics were classified into risk categories based on their potential to cause or exacerbate metabolic syndrome: high, moderate, or low risk. Patients were categorized into mutually exclusive cohorts based on clinical characteristics adapted from the American Heart Association metabolic syndrome diagnostic criteria: elevated risk or standard risk of metabolic syndrome. The primary outcome was the proportion of acute patients prescribed high-risk versus moderate- or low-risk antipsychotics. Secondary outcomes included the proportion of subacute, diabetic, and obese patients prescribed high-risk versus moderate- or low-risk antipsychotics.

Results

384 patients met inclusion criteria, of whom 29 were excluded due to insufficient EHR data. 278 had received treatment in acute units and 77 had received treatment in subacute units. Acute patients with elevated risk of metabolic syndrome were more likely to be prescribed low-risk antipsychotics at 21.93% compared to 14.63% of patients with standard risk of metabolic syndrome [χ^2=1.20]. Patients treated in acute units were less likely to receive high-risk antipsychotics regardless of individual patient risk of metabolic syndrome; 37.72% and 40.85% of elevated and standard risk acute patients received high-risk antipsychotics, respectively, compared to 44.44% and 50.00% of comparable patients in subacute units. Statistical significance in antipsychotic selection by patient risk category was observed in prescribing patterns for diabetic versus nondiabetic patients (χ^2 = 11.5445, p = 0.0031).

Conclusions

Prescribers are likely to exercise caution before initially prescribing antipsychotics associated with high risk of metabolic syndrome, but these results suggest that such caution is similarly applied to all nondiabetic patients regardless of baseline patient metabolic function.

Connor, Taylor

Evaluation of Treatment of COPD Patients Managed at University of Arkansas for Medical Sciences Capital Mall and Family Medical Center Outpatient Care Clinics

Connor, Taylor; Murphy, Pilar; Boehmer, Kaci
Department of Pharmacy Practice, College of Pharmacy, University of Arkansas for Medical Sciences

Background and Purpose

To evaluate if patients with Chronic Obstructive Pulmonary Disease (COPD) have corresponding diagnostic and yearly Pulmonary Function Tests (PFTs) as recommended by the Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines and to assess if patients are prescribed guideline directed therapy for COPD. We will also evaluate if COPD Assessment Test (CAT) Scores are being utilized to communicate the impact of COPD on patients' daily activities. The goal of this project is to identify areas of improvement in COPD management of patients treated at two primary care clinics within the University of Arkansas for Medical Sciences (UAMS) health system.

Methods

A retrospective analysis will be performed on patients at least 18 years old with a documented diagnosis of COPD seen at UAMS Capital Mall or Family Medical Center for COPD between January 1, 2021 and December 31, 2023. Patient records will be evaluated based on a report generated by the Arkansas Clinical Database Repository (AR-CDR) for those meeting inclusion and exclusion criteria. Patients receiving COPD management by providers outside of UAMS Capital Mall or Family Medical Center, those without an active prescription for medications associated with COPD treatment, and those who are nonadherent to yearly follow-up will be excluded. Patients' electronic health records will be evaluated using EPIC to assess if recommended PFTs are being conducted, if patients are currently on the correct guideline directed medication treatment indicated, and if CAT scores are being calculated within the selected outpatient clinics. Secondary outcomes include assessing if patients are up to date on vaccines and smoking cessation status, if applicable. Descriptive statistics will be performed to assess the data to determine if patients are being managed appropriately, to identify barriers to COPD care, and recognize areas of improvement that can be implemented in the future.

Results and Conclusions

Results will be described.

Cossar, Eliza

Comparing Clinical Effects of Humira and its Biosimilars

Cossar, Eliza[1]; Earl, Sally[2,3]; Montgomery, Natalie[1,2]
[1]Baptist Memorial Hospital – North Mississippi, Oxford, MS; [2]University of Mississippi School of Pharmacy, University, MS; [3]Baptist Cancer Center – North Mississippi, Oxford, MS

Background/Purpose

Humira (adalimumab), a tumor necrosis factor alpha (TNF-a) inhibitor, is a biologic that is used to treat rheumatoid arthritis, psoriatic arthritis, ulcerative colitis, Crohn's Disease, and other disease states. Biologics like Humira account for almost half of the US drug costs despite accounting for less than 3% of all medications prescribed. Biosimilars are branded products that contain the same active ingredient as the reference biologic. In recent years, many Humira biosimilars have been approved by the FDA. Since their approval, factors unavoidable to prescribers have forced patients to switch from Humira to a biosimilar regardless of the clinical outcomes on Humira. Patients of Baptist Rheumatology in Oxford, Mississippi, have had mixed clinical results since being prescribed a biosimilar. The purpose of the study is to describe and compare clinical characteristics of patients who were prescribed Humira or a biosimilar at Baptist Rheumatology in Oxford, Mississippi.

Methods

This study has an observational retrospective design. Patients will be identified using a third-party program utilized by Baptist Specialty Pharmacy to capture medications prescribed through Epic. The inclusion population consists of Baptist Rheumatology patients who were prescribed Humira or a biosimilar. Individuals must be 18 years or older, and patients who did not start the prescribed medication will be excluded. The primary endpoint of the study will be rate of treatment failure while on Humira or a biosimilar. Treatment failure is considered an increase in disease-related symptoms and/or disease progression that required a change in therapy. A retrospective chart review will be performed to collect data for analysis. This will include participants' age and sex, indication for biologic, insurance type, and biologic medication history, including medication prescribed, date prescribed, and date discontinued if applicable. Clinical response will be evaluated using laboratory and physical findings including sedimentation rate, Routine Assessment of Patient Index Data 3 (RAPID3) score, C-reactive protein (CRP), and physical examination at the time of their appointments. Descriptive statistics will be used to analyze failure rates of Humira or biosimilars.

Results

Results will be described.

Conclusion

Conclusions are pending the completion of data analysis and will be described.

Cottingham, Camryn

Ticagrelor or Prasugrel vs. Clopidogrel in Post-PCI Patients on Oral Anticoagulation

Authors: Cottingham, Camryn; Kruse, Leslie; Kennedy, Sydney
University of Mississippi Medical Center, Jackson, MS

Background and Purpose

The combination of oral anticoagulation and dual antiplatelet therapy (aspirin + P2Y12 inhibitor), also known as triple therapy, significantly increases the risk of bleeding. Traditionally, clopidogrel is the P2Y12 inhibitor of choice used for triple therapy because it is the most extensively studied, least expensive, and has lower potency compared to ticagrelor and prasugrel. This study's purpose is to compare the rates of readmissions involving bleeding in post-PCI patients on oral anticoagulation (OAC) and initiated on antiplatelet therapy with either ticagrelor, prasugrel, or clopidogrel.

Methods

This retrospective observational study included patients who were 18 years or older and were admitted to UMMC from August 31st, 2019, to August 31st, 2023. These patients underwent percutaneous coronary intervention (PCI) and were treated with triple therapy (aspirin, P2Y12 inhibitor, and OAC). Exclusion criteria included prisoners, pregnant women, and individuals not meeting inclusion criteria. The primary outcome was the rate of readmissions for major or clinically relevant nonmajor bleeding within 12 months. Secondary outcomes included time on triple therapy, mortality within 12 months, and the incidence of thrombotic/ischemic events.

Results

A total of 138 patients were included, 110 in the clopidogrel group, 28 in the ticagrelor group, and 0 patients in the prasugrel group. 12.7% of patients experienced a single readmission with major or clinically relevant nonmajor bleeding vs 14.3% (4/28) in the ticagrelor group ($p = 0.762$). There was a higher incidence of mortality observed within the 12 months post-PCI in the clopidogrel group ($p = 0.041$), but there was no statistically significant difference in the incidence of ischemic/thrombotic events between the two groups (7.3% vs. 7.1%, $p = 1.00$). The most common duration of triple therapy was 7-30 days (67.3% vs. 57.1%).

Conclusions

The findings suggest that both clopidogrel and ticagrelor can be effectively used in post-PCI triple therapy without a significant increase in bleeding risk. However, the higher mortality observed in the clopidogrel group suggests the need for further research, particularly large multicenter studies, to determine the optimal choice of P2Y12 inhibitor in this setting and its long-term impact on clinical outcomes.

Cox, Lindsey

Comparison of risk factors for hemorrhagic conversion in patients who received tenecteplase with or without thrombectomy for the treatment of acute ischemic stroke

Cox,Lindsey; Daniel, Brittany ; Martin, Zach; Turner, Ben
Ascension Saint Thomas Rutherford Hospital, Murfreesboro, TN

Background/Purpose

Fibrinolytics are the standard of care for patients suffering from an acute ischemic stroke (AIS). Current clinical guidelines endorse the administration of alteplase; however, recent research indicates tenecteplase (TNK) demonstrates noninferiority to alteplase in the treatment of AIS. It is noteworthy that an increase in symptomatic intracranial hemorrhage (sICH) has been observed with the use of tenecteplase. In this study, we aimed to determine whether there was a relationship between the presence of at least one risk factor (systolic blood pressure >140 mmHg, blood glucose >200 mg/dL or NIHSS score >8) and hemorrhagic conversion following tenecteplase administration for AIS.

Methods

This was a single health-system, retrospective chart review of adult patients who received tenecteplase for the treatment of an acute ischemic stroke between June 2022 and June 2023. The primary outcome was the rate of hemorrhagic conversion following the administration of tenecteplase with one of the identified risk factors. The secondary outcome was mortality rates subsequent to a hemorrhagic conversion in patients treated with tenecteplase.

Results

A total of 135 patients were included in the study, while 32 patients were excluded. The analysis of primary outcomes showed no statistically significant correlation between hemorrhagic conversion and the presence of either NIHSS scores greater than 8 (P=0.106) or systolic blood pressure greater than 140 mmHg (P=0.356). However, there was a statistically significant correlation between hemorrhagic conversion and blood glucose levels exceeding 200 mg/dL (P=0.047). Furthermore, this study found no significant difference in mortality rates between patients in the hemorrhagic conversion group, regardless of whether they had risk factors (P=0.127).

Conclusions

The primary outcome of hemorrhagic conversion following the administration of tenecteplase was found to be statistically significant in patients with glucose levels exceeding 200 mg/dL at the time of admission. Overall, the results suggest that an admission glucose level greater than 200 mg/dL is associated with an increased occurrence of hemorrhagic conversion following tenecteplase administration.

DaRosa, Andrew

Impact of Pharmacist Driven Diabetes Self-Management Education and Support (DSMES)

DaRosa, Andrew (Primary Investigator – Memphis TN); Haywood, Ian (Sub-Investigator – Memphis TN); Sidebottom, Ashley (Sub-Investigator – Memphis TN); White, Lindsay (Sub-Investigator – Memphis TN)

Background and Purpose

Previous studies have established that people with diabetes undergoing DSMES classes have increased diabetes related knowledge and heightened ability to perform diabetes self-management activities and are more equipped to participate in informed co-decision making. Following the implementation of a DSMES service at Baptist Memorial Hospital-Memphis, the main purpose of this study is to determine if there is a difference in blood glucose management in adult patients with diabetes that complete an outpatient DSMES program with a certified diabetes care and education pharmacist compared to patients who have not completed such a program.

Methods

This is a single-center retrospective chart review of patients admitted to Baptist Memorial Hospital-Memphis (BMHCC) from December 1, 2023 to August 31, 2024. Patients were included if they were admitted to BMHCC, had a new diagnosis of diabetes or an A1C over 7.5, were prescribed at least one medication with a diabetes indication, and were contacted by the DSMES pharmacist. The primary endpoint was A1C reduction after completing a 10 hour DSMES outpatient education series. Secondary endpoints were readmission rates at 30, 60, and 90 days and ED presentation rates at 30, 60, and 90 days. Patients were excluded if they were <18 year old, experienced mortality during BMHCC stay, were discharged to a long-term care facility, skilled nursing facility, hospice, or correctional facility, or did not have an A1C within 2-6 months of their initial presentation to the hospital.

Results

A total of 37 patients met inclusion criteria. Of those 37, 19 completed the DSMES course at Baptist Hospital, while 18 did not. Average baseline A1C readings for the groups were 12.2 and 11.4 respectively, and they did not significantly differ (p=.32). Patients in the completed DSMES group had a significant decrease in follow up A1C compared to those who did not participate in the class (-4.4 vs -2.4, p=0.047). 5.2% of patients who completed DSMES were readmitted within 30 days as compared to 27.8% of the patients who did not attend DSMES classes. 90 day readmission rates were 15.8% and 50% respectively.

Conclusions

Completion of an outpatient, pharmacist driven DSMES class improved blood glucose management.

Dauerer, Maria

Safety Analysis of Alteplase vs. Tenecteplase in the Treatment of Acute Ischemic Stroke

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[1]Tristar Summit Medical Center, Hermitage, TN [2]Lipscomb University, Nashville, TN

Background/Purpose

In 2022, one in six deaths caused by cardiovascular disease was due to a stroke. According to the Center for Disease Control, more than 795,000 people in the United States have a stroke every year. Of those, approximately 87% were ischemic strokes. Strokes are also one of the leading causes of long-term disability with more than half of stroke survivors, age 65 and older, experiencing reductions in mobility. The American Heart Association/American Stroke Association (AHA/ASA) 2018 stroke treatment guidelines, recommend either alteplase or tenecteplase as treatment for acute ischemic stroke. Only alteplase was FDA approved for treatment of acute ischemic stroke, however, tenecteplase was recently approved on March 3, 2025. Tenecteplase use is also increasing due to its higher fibrin clot specificity as well as the simplicity of dosing and ease of administration. At TriStar Summit Medical Center, alteplase was the formulary agent in patients being treated for acute ischemic stroke until a transition to tenecteplase in October of 2022.

Methods

In this retrospective, single center chart review, approximately 300 patients were identified via clinical pharmacy monitoring software. Eligible patients include those who were treated for an acute ischemic stroke with either alteplase or tenecteplase from November 1, 2020 to September 1, 2024. The primary objective was to analyze the incidence of intracranial hemorrhage between the two medications. Secondary objectives include incidence of bleeding events, packed red blood cell administration, receipt of rescue drugs, door to needle time, in hospital mortality, and any adverse events related to fibrinolytic administration.

Results

Of the 113 patients who received alteplase, 16 (14.4%) as well as 19 of the 144 (13.4%) patients who received tenecteplase had repeat imaging suggestive of an intracranial hemorrhage meaning the primary outcome was not statistically significant (p-value = 0.81). A statistically significant difference was found regarding the median door-to-needle time (40 minutes for alteplase versus 31.5 minutes for tenecteplase, p-value: <0.0001).

Conclusions

This study did not find a statistically significant difference in the incidence of intracranial hemorrhage between alteplase and tenecteplase when used for treatment of acute ischemic stroke. However, median door-to-needle time was greatly improved following the hospital-wide transition to tenecteplase.

Desai, Jenish

Development of a Comprehensive Intervention Tracking Tool for Ambulatory and Specialty Pharmacists and Pharmacy Technicians.

Desai, Jenish PharmD[1], Mcglaughlin Brent PharmD, [1], Armstrong Drew PharmD, [1,2]
Regional One Health, Memphis, TN[1]; University of Tennessee College of Pharmacy, Memphis, TN[2]

Background/Purpose

Pharmacists and pharmacy technicians in ambulatory settings play a key role in medication management for patients with complex conditions. However, measuring their impact is challenging due to team-based care, and varied tracking methods. A robust tool to capture pharmacy interventions could validate pharmacy's impact on patient care and justify service expansion. This project aims to expand the current clinical intervention tracking to demonstrate the value of pharmacists and pharmacy technicians.

Methods

Historically, documenting interventions in the ambulatory setting at Regional One Health was limited to broad categories and lacked unique interventions relevant to different practice areas. To accurately capture clinical interventions, a tracking tool was developed by gathering feedback from pharmacists and pharmacy technicians to identify relevant intervention categories. Using this input, a Google Forms tool was created to capture interventions across various clinical settings. The form included fields for documenting interventions with categories such as clinic interventions, specialty pharmacy interventions, infusion center interventions, transitions of care (TOC) interventions, oncology clinic interventions, and home health/telehealth interventions. The tool was distributed to all ambulatory pharmacists and technicians via a shared link, and they were instructed to utilize the tool for a two-week pilot phase. A comparator group of interventions was collected via a report out of the EHR to assess for changes in total number of interventions documented.

Results

During the two-week pilot, 21 participants across multiple clinics documented 1,418 unique interventions. The interventions were distributed as follows: 535 specialty pharmacy, 427 clinic, 212 infusion center, 152 oncology clinic, 35 TOC, and 22 home health/telehealth. In the comparator group, there were a total of 194 unique interventions documented across areas including outpatient, miscellaneous, patient education, and drug therapy. Technician data to be reported.

Conclusions

This new tracking tool offers valuable data on pharmacy's impact, capturing 1,418 interventions across diverse practice settings. This highlights the significant role pharmacy plays in patient care and the need for better EHR intervention categories. Improved documentation could justify services and enhance patient care delivery.

Deschamp, Emma

Efficacy of a Repeat Course of Dexamethasone on Extubation Rates in a Level IV NICU

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Background and Purpose

Bronchopulmonary dysplasia is the most common complication of extreme prematurity and carries increased respiratory morbidity into childhood and adulthood. A course of systemic corticosteroids, primarily dexamethasone, has been shown to improve respiratory function, facilitate extubation, and decrease the incidence of BPD in extremely premature infants. At Le Bonheur Children's Hospital, infants who fail to wean from mechanical ventilation after the first course of dexamethasone may be considered for a repeat course. The purpose of this study is to review institutional practices and evaluate extubation rates following a second course of dexamethasone in the neonatal intensive care unit.

Methods

A retrospective review of the electronic medical record was conducted from January 2016 through October 2024 of patients admitted to the NICU at Le Bonheur Children's Hospital. Patients were included if they received at least two courses of dexamethasone. Data collected includes patient demographics, duration of treatment, days between courses of dexamethasone, exposure to other steroids, and modality of respiratory support before and after treatment. Extubation rates, weaning of respiratory support, and reintubation rates were evaluated.

Results

Twenty infants were included, with a median gestational age of 25 weeks. Nine infants (45%) remained extubated for at least 7 days. Infants who were extubated had a median post-menstrual age of 38 weeks versus 45 weeks in the non-extubated group ($p = 0.171$). The extubated group had a median weight of 2 kg versus 2.9 kg in the non-extubated group ($p = 0.322$). The median baseline respiratory severity score was 5 versus 11 in the extubated and non-extubated group, respectively ($p = 0.195$). More patients in the non-extubated group were exposed to other steroid courses outside of DART at 82% versus 56% in the extubated group ($p = 0.336$).

Conclusions

Patients who were extubated following a second course of dexamethasone were younger and smaller than those who were not extubated. They also had a lower baseline respiratory severity score and were less likely to be exposed to other courses of steroids. A repeat course of dexamethasone could be considered in these select patients but may be less effective in facilitating extubation in other patients.

Dick, Regina

Evaluation of Decentralized Pharmacist Pilot on Inpatient Floors Effect on the Medication-Related HCAHPS Survey Scores

Dick, Regina; Pridgen, Savannah; and Jantz, John

Highpoint Health at Sumner with Ascension St. Thomas - Gallatin, Tennessee

Background and Purpose

Medication non-adherence is one of the largest drivers of hospital re-admissions. The impact of pharmacist-driven medication counseling on patient satisfaction scores of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) surveys is not well defined. Previous data has shown that direct patient counseling from pharmacists increases patient overall outcomes.

Methods

A retrospective study was conducted in a medium-sized suburban hospital to determine the effect of pharmacist-driven medication counseling on HCAHPS survey scores from September 2024 to December 2024. The medication-related question (MRQ) on the HCAHPS survey was of interest. In this study, two med-surge floors with decentral pharmacist presence were compared to two med-surge floors that contain nursing counseling alone. The primary outcome of the study was the percentage change of the “top box” scores for the MRQ in the HCAHPS surveys. Notable secondary outcomes included percentage change of “top box” for the MRQ HCAHPS scores of the intervention group pre- and post-pharmacist decentralization and the percentage of patients on the intervention floors receiving pharmacist counseling compared to the total number of patients discharged for those floors during the study period. The facility’s pharmacy surveillance software was utilized to track pharmacist interventions.

Results

There were 1,893 eligible patients admitted to the intervention floors over the study period with 88 patients (4.65%) receiving pharmacist counseling on inpatient medications. A total of 203 HCAHPS survey submissions were collected during the study timeframe. The primary outcome of average percentage change in “top box” HCAHPS survey scores of the intervention floors was -18% compared to -8% of the non-intervention floors. The secondary outcome of the average percent change in “top box” HCAHPS survey scores of the intervention floors pre-implementation was 9% with a post-implementation average of -18%.

Conclusions

This single center retrospective study could not demonstrate the impact of pharmacist-driven medication counseling on patient satisfaction scores of the HCAHPS survey. Major limitations contributed to the study’s inability to provide adequate data. Noteworthy limitations included the insufficient sample size of less than 5% of eligible patients receiving pharmacist counseling and the study timeframe being constrained to 3 months.

Dixson, Gabrielle

Implementation of a Pharmacist Led Discharge Medication Reconciliation Service in an Inpatient Hospital Setting

Dixson, Gabrielle; Entrekin, Tiffany; Kennedy, Chelsey; Hebert, Lynn
Memorial Hospital at Gulfport; Gulfport, Mississippi

Background and Purpose

With pharmacists being highly skilled and trusted medication experts, hospitals can benefit in utilizing them during the process of discharge planning. The purpose of this project is to implement a pharmacist led discharge medication reconciliation service and improve safety by ensuring patients are being discharged on guideline directed therapy where applicable, reducing medication errors, and subsequently reducing hospital readmission rates.

Methods

The pharmacist will round with the hospitalist and medical residents on the internal medicine team and collaborate with case management, nurses and mid-level practitioners. The pharmacist will be responsible for reviewing patient charts and providing recommendations as appropriate. Prior to discharge, the pharmacist will evaluate and assess the following: inpatient versus home medication list, changes in medication dosage or frequency, medications being added or discontinued, therapeutic duplications, drug interactions, drug allergies or contraindications, medication adherence, and barriers related to obtaining medications. The pharmacist will also provide discharge medication counseling. All interventions completed by the pharmacist will be documented in the patient's medical record. The pharmacist will attempt to follow up with the patients via telephone to address any medication related issues or concerns.

Results

Preliminary results include pharmacist-led interventions in 27 out of 73 patient charts reviewed during interdisciplinary rounds and identification of 20 medication errors at discharge.

Conclusions

Pharmacists can play a crucial role in interdisciplinary rounding and discharge planning by providing medication expertise, identifying and resolving medication-related issues, and educating patients. Pharmacist involvement can enhance patient safety, ensures appropriate medication use, and support a smoother transition of care.

Duncan, Kaulin

A Real-World Analysis of Filgrastim and Biosimilars for Engraftment post-Hemopoietic Cell Transplantation: Balancing Efficacy and Economics

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Background and Purpose

Hematopoietic cell transplantation (HCT) is a treatment for hematologic malignancies, with granulocyte colony-stimulating factors (G-CSF), such as filgrastim, facilitating neutrophil engraftment. Biosimilars have gained traction in solid tumor malignancies due to their cost-effectiveness, but real-world evidence of their impact post-HCT remains limited. This study evaluates the efficacy and cost implications of filgrastim biosimilars in neutrophil engraftment following HCT.

Methods

A retrospective analysis was conducted at Methodist University Hospital from 2015 to 2023, evaluating filgrastim (FG) to filgrastim-sndz (FG-sndz) following the switch in September 2020. Data was collected for patients receiving reference FG or FG-sndz post-HCT and stratified by transplant type (autologous vs. allogeneic). The primary outcome was neutrophil engraftment time, with secondary outcomes including length-of-stay (LOS), incidence of engraftment syndrome, bone pain, and cost-effectiveness.

Results

Forty-one patients received FG-sndz and 188 patients received FG. Baseline characteristics were mostly similar between the groups: median age (55 vs 59 yo), male sex (56.1 vs 54.8%), and indication for transplant for multiple myeloma being the most common (36.3 vs 43.6%), although there was a difference in the of type of allogeneic donor ($p=0.014$), with more mismatched unrelated donors in the FG-sndz arm (0% vs 10.5%). In the autologous HCT group, FG-sndz recipients had a significantly shorter median time to neutrophil engraftment (6 vs. 8 days; $p<0.001$) and LOS (13.5 vs. 18 days; $p=0.038$). The total cumulative dose per patient was also lower in the FG-sndz group (2880 mcg vs. 3840 mcg, $p<0.001$), providing a 56% cost savings ($p<0.001$). Bone pain was not significantly higher in the FG-sndz group, (18 vs. 7%; $p=0.096$). In the allogeneic HCT group, no significant differences were observed in median time to neutrophil engraftment (9 vs. 10 days; $p=0.514$), LOS (28 vs. 25 days; $p=0.169$), or cumulative dose per patient (6240 mcg vs. 4800 mcg, $p=0.330$), with a 24% cost savings, though this was not statistically significant. Rates of engraftment syndrome, bone pain, graft failure, and dose escalation were comparable between groups.

Conclusion

This study supports the real-world efficacy of FG-sndz in post-HCT neutrophil engraftment, demonstrating comparable clinical outcomes to reference FG while also providing cost savings opportunities, particularly in autologous HCT.

Edwards, Brehanna

Impact of Initial Parenteral Anticoagulation on DOAC Loading Dose for Acute VTE: Multicenter Study

Edwards, Brehanna[1]; Laux, Megan[1]; Watson, Kathaleen (Mack)[1]; Jolakoski, Natasha[2]; Giuliano, Christopher[2]; Edwin, Stephanie[2]; Grazia, Sarah[3]; Haan, Bradley[3]; Breedan, Thomas[3]; Brewster, Clare[4]; Carabetta, Shannon[4]; Paylor, Meagan[4]; Anderson, Whitney[5]; Harpenau, Andrew[5]; Rosas, Danielle[6]; Bruns, Rache[6]; Varda, Josephine[6]; Penev, Diana[7] and Koopman, Kathleen[7]

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Background and Purpose

Venous thromboembolism (VTE), which includes deep vein thrombosis (DVT), and pulmonary embolism (PE), is a significant health concern leading to substantial morbidity and mortality. In the United States alone, VTE impacts up to 900,000 patients and accounts for 100,000 deaths each year. Given the increased risk of recurrent VTE (rVTE) during the initial management phase, landmark trials for direct oral anticoagulants (DOACs) have utilized different lead-in strategies. Currently, no studies specify differences in parenteral lead-in strategies for acute VTE prior to DOAC use and the duration of the lead-in dose.

Methods

This multi-center, retrospective cohort study was approved by Ascension Health Institutional Review Board. This study collected data between January 1, 2017 and March 31, 2024 across multiple Ascension Health Sites and multiple Henry Ford Health Sites. A full lead-in dose was defined as 13-14 apixaban 10mg doses or 39-42 rivaroxaban 15mg doses regardless of parenteral anticoagulation (PAC) duration; the reduced dose group included patients who received <85% of the lead-in dose with PAC covering the remaining portion of the lead-in dose. The primary composite outcome assessed time to rVTE within the index admission to 6-months and secondary outcomes including major bleeding, clinically relevant nonmajor bleeding, re-hospitalization for a VTE or anticoagulant related event, hospital length of stay and mortality within 6-months.

Results

A total of 945 patients participated in the study, with 740 full lead-in and 205 reduced lead-in. The analysis of rVTE showed no statistically significant difference between the two groups (24/740 [3.2%] vs. 4/205 [2.0%]; p-value: 0.3343). However, all-cause mortality at 6 months was higher in the reduced lead-in (16/685 [2.3%] vs. 11/180 [6.1%]; p-value: 0.0095). The study is still in the data collection and analysis stage, but the provided data reflects the preliminary analysis.

Conclusions

While the reduced lead-in does not appear to affect the recurrence of VTE significantly, it may be associated with longer PAC treatment and increased mortality at 6-months. These findings suggest that the full lead-in may offer better outcomes in mortality, though further investigation is needed.

Edwards, Dylan

The Evaluation of Antibiotic Usage in Infants ≥ 35 weeks at Risk for Early Onset Sepsis: A Retrospective Chart Review Analyzing Antibiotic Usage Practices and Indications

Edwards, Dylan J.[1]; Gaston, Kan[1]; Pinkard, Chad[2]; Sakaria, Rishika[2]; Sandercock, Khloe[2]; Talati, Ajay[2]
Regional One Health, Memphis, TN[1]; University of Tennessee College of Medicine, Memphis, TN[2]

Background and Purpose

Early onset neonatal sepsis is a leading cause of morbidity and mortality in neonates. Because of their immature immune response and their inability to generate an adequate response to infectious organisms, neonates are at an increased risk for sepsis. Neonatal exposure to antibiotics is common and is associated with morbidities. As such, institutional protocols and policies can help navigate antibiotic choices and implementation. Periodic review of unit practices allows for internal assessment and comparison to current standard of care as well as allowing for adjustment of necessary policies to maintain optimal patient outcomes. Regional One Health's antimicrobial stewardship program was initiated in our Level 3 NICU in 2013. Our early onset sepsis guidelines have been revised twice, once in 2018 and again in 2025, with the latest revision focusing on clarification of treatment for late preterm and term infants. The primary purpose of this study is to evaluate and gain a better understanding of the usage of antibiotics in neonates ≥ 35 weeks before and after our NICU's guideline revision in 2025.

Methods

This is a retrospective, single-center, observational study including neonates born at 35 weeks or older at Regional One Health. Patients born between July 1, 2024 and October 31, 2024 (pre-revision) and January 1, 2025 and February 28, 2025 (post-revision) were included in this study. Electronic medical records were used to collect patient-specific laboratory data, demographics, medications, reasons for antibiotic usage, and duration of therapy.

Results

Results to be described.

Conclusions

Conclusions to be described.

Ekwebelem, Precious

Effects of Pharmacist-Lead Chronic Obstructive Pulmonary Disease (COPD) Transitions of Care Services

Ekwebelem**,** Precious (Primary investigator – Memphis, TN), White, Lindsay (Sub-investigator – Memphis, TN), Sidebottom, Ashley (Sub-investigator – Memphis, TN), Brunson, Allison (Sub-investigator – Memphis, TN)

Background and Purpose:

One of the most preventable chronic diseases, COPD, significantly contributes to prescription drug related morbidity and mortality. Transition of care services have been implemented in chronic disease states to combat healthcare disparities and increase medication optimization and adherence. Studies have shown that the establishment of these services has decreased readmission rates and resulted in better therapeutic outcomes. The purpose of this study is to evaluate the effectiveness of pharmacist lead transitions of care services according to hospital protocol and clinical guideline recommendations, and to determine the impact on 30-day readmissions for COPD post-discharge.

Methods:

This study is a single-center, retrospective chart review of hospitalized patients admitted to Baptist Memorial Hospital-Memphis for acute exacerbation of COPD from January 1, 2023, to August 1, 2024. Patients' records will be reviewed to compare outcomes for patients who received pharmacist-led COPD transitions of care services to patients who did not. Inhaler regimens at discharge will be analyzed for appropriateness per clinical guideline directions. Other data outcomes that will be assessed include total prednisone milligram equivalents, daily prednisone equivalents, 30-day readmission rates, 30-day readmission rates for COPD. This study has been submitted to the Institutional Review Board for approval.

Results:

A total of 120 patients were included in the study, 59 patients who received COPD TOC services and 61 who did not. Patients in the TOC arm received appropriate 2023 GOLD guideline recommended inhaler regimens at a higher rate compared to those that did not receive TOC services, (50/59, 84.7% versus 35/61, 57.4%, p= <0.00001).

Conclusions:

Patients that received TOC services are more likely to discharge with appropriate GOLD guideline recommended regimens.

Engle, Rachel

Perioperative Glucose Control in Non-Cardiac Surgical Patients Related to Surgical Site Infection

Engle, Rachel; Griffin, Holly; Huddleston, Toni
North Mississippi Medical Center, Tupelo, MS

Background and Purpose:

An increased risk of surgical site infection, length of stay, readmission rates, and greater mortality have been directly associated with perioperative glucose control, posing a burden on patients and a financial strain on healthcare systems. Elevated glucose concentrations negatively affect both cellular and immunological systems, impairing key components of the innate immune response and hindering the host's ability to fight infections. The aim of this study is to evaluate perioperative glucose concentrations in relation to postoperative surgical site infections.

Methods:

A retrospective chart review was conducted on patients who underwent any high-risk surgical procedure between January and December 2023. A total of 90 patients were identified in this cohort study, including 45 patients who developed a surgical site infection and 45 patients who did not. Blood glucose on the day of the procedure, hemoglobin A1C, appropriate pre-operative antibiotic regimens, and length of stay were assessed in both the infection and non-infection groups.

Results:

In the infection group, 5 patients had a preoperative glucose level >180 mg/dL compared to 7 patients in the non-infection group ($p = 0.46$). Of the patients with a reported hemoglobin A1C from the last three months, 2 patients in both groups had an A1C ≥ 8% ($p = 0.33$). A total of 27 patients in the infection group received an inappropriate preoperative antibiotic regimen, compared to 36 patients in the non-infection group ($p = 0.65$). The average length of stay in the infection group was 9.24 days, compared to 7.33 days in the non-infection group. Notably, a higher percentage of patients with no history of diabetes was observed in the non-infection group (58%) compared to the infection group (33%).

Conclusion:

This retrospective cohort study did not find a higher incidence of surgical site infection in patients who had a preoperative blood glucose level >180 mg/dL compared to those with a glucose level ≤ 180 mg/dL. Similarly, no higher infection rate was observed in patients who received inappropriate preoperative antibiotic regimens. Although no correlation was found between increased glucose concentrations and infection rates, current guidelines recommend maintaining perioperative glucose levels between 100-180 mg/dL.

Evans, Jaclyn

Utilization of carbapenems versus alternative non-carbapenem therapies for the treatment of ESBL positive urinary tract infections

Evans, Jaclyn; Corker Relph, Caitlin; King, Sean
Magnolia Regional Health Center, Corinth, MS

Background/Purpose:

Urinary tract infections (UTIs) have become a prevalent diagnosis in medicine, accounting for more than eight million provider visits per year. According to the American Urological Association, approximately 12% of men and 60% of women will experience at least one UTI in their lifetime. Non-carbapenem medications for the treatment of ESBL positive UTIs present a carbapenem-sparing alterative. The purpose of this study was to determine appropriate usage of carbapenems versus alternative non-carbapenem therapies in the treatment of ESBL positive UTIs. Overusing carbapenems could lead to the possibility of future carbapenem resistance.

Methods:

This was a single-center, retrospective cohort study assessing the prescribing usage of carbapenems versus non-carbapenem antibiotic therapies in the treatment of ESBL positive UTIs. Inclusion criteria included patients who had received ESBL positive UTI diagnoses. These diagnoses were confirmed with positive urine cultures and sensitivity test results. Exclusion criteria included patients less than eighteen years of age and patients who had an ESBL positive infection other than in the urine. The following data was collected from the electronic medical record system: patient age, gender, ethnicity, history of UTIs, risk factors for ESBL positive UTIs, renal function, antibiotics received, and antibiotic allergies.

Results:

Approximately 80% of all of the identified bacterial organisms in this study were shown to be ***Escherichia coli***. After reviewing the culture and sensitivity reports, the majority (94%) of all the bacterial organisms identified in this study were sensitive to ertapenem, followed by piperacillin-tazobactam (79%), gentamicin (64%), and tobramycin (54%). Lastly, when analyzing the justification for choosing a carbapenem versus non-carbapenem for treatment, approximately 52% of the study patients had a legitimate justification for a carbapenem being used as the antibiotic of choice versus a non-carbapenem (i.e. drug allergies or multi-drug resistant identified organism).

Conclusions:

There are non-carbapenem alternatives that can be used in the treatment of ESBL positive urinary tract infections; and carbapenem selection should be reviewed on a case-by-case basis.

Fehrenbacher, Tea

Effects of GLP-1 Receptor Agonists when Added to a Baseline Diabetes Regimen including Insulin in VA Outpatient Clinics Staffed by a Clinical Pharmacy Practitioner

Fehrenbacher, Tea; Townsend, Nick; Jett, Bryan Paul; Levengood, Sophia
Lt. Col Luke Weathers Jr. VA Medical Center, Memphis, TN

Background/Purpose

Diabetes mellitus (DM) is a chronic, highly prevalent disease across the world. Uncontrolled type 2 diabetes mellitus (T2DM) increases morbidity and mortality in the US population with complications such as nephropathy, retinopathy, neuropathy, peripheral vascular disease, and stroke. T2DM often initially responds well to oral anti-diabetic medication options. However, as the disease progresses, insulin replacement with daily basal regimens or more complicated regimens, including both basal and bolus insulin, may be indicated. Over the years, alternative agents have been approved for the treatment of T2DM that may have the ability to decrease insulin requirements, such as the glucagon like peptide-1 receptor agonists (GLP-1RAs).

Methods

This study was a retrospective, observational chart review of patients enrolled in clinics managed by a clinical pharmacy practitioner (CPP) at the Memphis VA. Eligibility criteria included patients 18 years or older who were managed by a CPP for T2DM and were prescribed insulin at baseline and thereafter prescribed a GLP-1RA (semaglutide or dulaglutide) starting after 01/01/2018. This study excluded patients whose diabetes was not managed by a VA CPP or patients who were non-compliant with GLP-1RAs. Chart data was reviewed in varying time intervals up to 48 months. The primary outcomes of this study were to evaluate for a reduction of insulin requirements, A1C, and weight after a GLP-1RA was added. Secondary outcome measures included change in the number and type of DM medications, change in lipid parameters, change in liver function, and ADEs requiring discontinuation of GLP-1RAs.

Results

A total of 202 patients were included in the study. For the primary endpoints, there was an average decrease of 12.1 units of basal insulin requirements per day, 10.4 units of bolus insulin requirements per day, 1.9% in A1C, and 8.4 pounds from baseline to 6 months of GLP-1RA therapy. Additionally, there was an average decrease of 15.6 units of basal insulin requirements per day, 8.4 units of bolus insulin requirements per day, 1.6% in A1C, and 17 pounds from baseline to 42-48 months.

Conclusions

GLP-1RAs are effective in independently lowering A1C, weight, and insulin requirements in as little as 6 months and up to 48 months.

Flaherty, Maguire

Daptomycin plus ceftaroline continuation vs de-escalation to monotherapy in MRSA bacteremia after blood culture clearance

Flaherty, Maguire[1] ,Peña, Kelsey[1] ,Stupar, Jelena[1] ,Abi-Mansour, Tanya[2] ,Maynard, Brian[3], Koopman, Kathleen[3], Paperiello, Emma[4] ,Barnas, Michael[3] ,Cox, Emily[5] , Davis, James[6], Gall, John[6]
[1]Ascension Saint Thomas Midtown, Nashville TN, [2]Ascension Saint Joseph Hospital, Chicago IL, [3]Alexian Brothers Medical Center, Elk Grove Village IL, [4]Ascension St Mary Hospital, Chicago IL, [5]Seton Medical Center Williamson, Round Rock TX, [6]All Saints Spring Street Campus, Racine WI

Background and Purpose

The utilization of daptomycin and ceftaroline combination therapy for refractory MRSA bacteremia has been proven effective. The duration of combination therapy has limited supporting evidence, and clinicians often base duration on clinical judgement. Nichols et al. conducted a retrospective, single center, cohort study comparing patients de-escalated to monotherapy after three to ten days of combination treatment to patients who were continued past ten days on combination therapy. They found that there was no significant difference in the primary outcome of clinical failure composite of inpatient infection-related mortality, 60-day readmission, and bacteremia recurrence within 60 days of documented clearance. This study builds upon Nichols et al. to examine de-escalation after ≤ 7 days.

Methods

This is a multicenter, retrospective, chart review of adult inpatients admitted from June 1, 2015, through December 31, 2024, found to have MRSA bacteremia and received at least 72 hours of combination therapy with ceftaroline and daptomycin. Patients were divided into two groups: “Combination” if combination therapy continued beyond 7 days and “Monotherapy” if de-escalated to anti-MRSA monotherapy after ≤7 days. The primary endpoint of this study is composite treatment failure defined as inpatient mortality, 60-day readmission, or recurrence of bacteremia within 60 days of documented clearance. The safety outcomes being studied are CK elevation, hepatotoxicity, nephrotoxicity, bone marrow suppression. Data collection requires a chart review of the patient’s electronic health record. This study was approved by the Ascension eIRB.

Results

1094 patients across 33 sites were included in the initial data pull. The study is currently still in the data collection phase. The current analysis plan is that demographic and clinical data will be analyzed using descriptive statistics. Quantitative variables will be compared using the Wilcoxon rank-sum test, while categorical variables will be compared using the Pearson chi-square test or Fisher exact test, as appropriate.

Conclusion

If no difference in the primary outcome is found, this would offer evidence that 7 days is an adequate duration of combination therapy. A shorter duration of combination therapy would decrease medication costs, risk of adverse events, and unnecessary exposure to broad spectrum antibiotics.

Forrest, Kelsey-Anne

Anticoagulation with systemic bivalirudin compared to heparin in those receiving percutaneous ventricular assist device therapy with Impella 5.5

Kelsey-Anne Forrest, Paige Nickelsen, PharmD, BCCCP, Chelsea Mitchell, PharmD, BCCCP, Sterling Torian, PharmD, BCCCP
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Background and Purpose

The Impella® device, a type of mechanical circulatory support (MCS), is a percutaneous ventricular assist device (VAD) implanted into the left ventricle delivering between 2 to 6 L/min of cardiac flow increasing cardiac output and mean arterial pressure in patients with cardiogenic shock.[1] Systemic anticoagulation is necessary to prevent thromboembolic complications associated with MCS devices in most patients, however, carries an increased risk of bleeding.[3] Ideal agents utilized for systemic anticoagulation, such as unfractionated heparin (UFH) and bivalirudin (BV), have a quick onset, short duration of action, and are easily titratable based on coagulation assays including Partial Thrombin Time (PTT) and Anti-Xa levels. This study evaluates time in therapeutic range (TR) among patients receiving therapeutic anticoagulation with BV versus UFH while on Impella 5.5 support.

Methods

This single center, retrospective review included adult patients who received MCS with an Impella 5.5 while systemically anticoagulated with either UFH or bivalirudin from January 2021 to August 2024. The primary outcome was percent of values in TR. Secondary outcomes included time to TR, clinically significant bleeding, and thrombotic complications.

Results

Seventy-seven patients were included in this study (BV=63; UFH=14). Patients were primarily male, Caucasian, and the most common comorbidity was heart failure. There were no differences in baseline comorbidities except for significantly more coronary artery disease in patients receiving BV than UFH (79% vs 43%, p=0.006). BV yielded significantly higher percent of values in TR (75% vs 59%, p=0.011) and shorter time to TR (5h vs 20h, p=0.03). While patients were on BV longer (8d vs 4d, p=0.002), there were no differences in bleeding, thrombotic complications or ICU/hospital length of stay. The majority of patients either achieved myocardial recovery or received surgical revascularization or permanent VAD.

Conclusions

Patients receiving BV achieved TR faster and maintained TR longer than UFH. No significant differences in bleeding or thrombotic complications were found. These results suggest BV is as safe and efficacious as UFH, but perhaps provides a better pharmacokinetic profile as a systemic anticoagulant in patients requiring MCS with Impella 5.5. While this study showed statistical significance, larger trials with matched cohorts are warranted to prove non-inferiority.

Gaddis, Kira

Geriatricians' Perceptions of Cognitive Screening of Older Adults in the Community Pharmacy Setting

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University of Mississippi School of Pharmacy, Jackson, Mississippi 39216

Background and Purpose

Alzheimer's disease is a neurodegenerative disorder that causes memory loss and cognitive impairment. It is the seventh leading cause of death in the United States, affecting approximately 6 million Americans, mostly above age 65. Healthy People 2030 aims to improve the quality of life of individuals with Alzheimer's disease, with one of the efforts being through early diagnosis. Studies have shown that community pharmacies may be an effective setting for cognitive screening, although this service is not widely implemented. The purpose of this study was to evaluate geriatricians' perspectives on incorporating pharmacist-administered cognitive screening exams in the community pharmacy setting.

Methods

A survey-based, mixed methods study design was utilized to explore the perspectives of board-certified geriatricians in Mississippi on implementation of cognitive screenings within community pharmacies. Geriatricians were recruited via email, in person, or via telephone, and online consent was obtained prior to administration of a survey. Descriptive information regarding geriatricians' perceptions of a pharmacist-led cognitive screening program was collected via a 20-item questionnaire administered through Qualtrics. Twenty board-certified geriatricians were identified, and twelve surveys were disseminated via email between October 28, 2024, and January 8, 2025. Information obtained from geriatricians included, but was not limited to, types of cognitive screenings used in their practice; perceived advantages and concerns of pharmacists administering cognitive screenings; and suggestions for services that the pharmacist may provide if cognitive decline is detected.

Results

Preliminary results are listed. There were six of the twelve surveys distributed that resulted in responses. The most common cognitive screening exams used among this sample were MOCA (n=5, 83%) and Mini-Cog (n=5, 83%). Common barriers that geriatricians faced regarding cognitive screenings were time constraints (n=6, 100%) and staff availability (83%). All of the geriatricians agreed that pharmacists would need training in order to effectively conduct cognitive screening, but they noted that it would be helpful or very helpful.

Conclusions

In conclusion, geriatricians may be willing to allow pharmacists to perform cognitive screenings in the community pharmacy setting. It is important, however, to ensure that there is a process in place for patients to receive further follow up after the screening.

Galban, Tyler

Evaluating Heart Failure Readmission Rates After Pharmacist Led Medication Education

Galban, Tyler and Carver, Niki
NEA Baptist Memorial Hospital Jonesboro, Arkansas

Background/Purpose

In 2012, the Centers for Medicare & Medicaid Services (CMS) started the Hospital Readmissions Reduction Program (HRRP) covering four major health conditions looking at 30-day readmission rates. NEA Baptist Hospital readmission rates for heart failure disease is currently 20.4%, in line with the national average. The objective of this study was to evaluate readmission rates at NEA Baptist Hospital for heart failure patients after pharmacist led medication education intervention. Subjects baseline knowledge of heart failure and their heart failure medications was assessed by answering questions before and after their education session.

Methods

This study was approved by the Institutional Review Board and is a prospective cohort study. Subjects were identified using the program NEA Daily Heart Failure Admissions on EPIC. From there, if a subject met the inclusion criteria, the subject was approached by myself, Tyler Galban, the subject was read a general protocol of the study and asked for consent to participate. If the subject chose participation, he/she was given a 5-question pre-test over heart failure and heart failure medications. After the pre-test, the subject was educated on heart failure and heart failure medications. The subject was then given the same 5 question test as previously given to determine if any knowledge was gained. The subject was followed for 30 days to determine readmission rates.

Results

In this study a total of 20 subjects were approached to participate in this research project, of the 20, nine subjects consented to be educated on heart failure and heart failure medications. Out of the nine subjects who received heart failure medication education, none were readmitted for heart failure within 30 days. Eight out of nine patients improved baseline knowledge of heart failure and heart failure medications, and one stayed at baseline.

Conclusion

It is evident from the pre and post test scores that patients gained knowledge from reviewing their heart failure medications. Although this study was small, no patients were readmitted within 30 days for heart failure. I believe patients benefit from reinforcing the importance of their heart failure medications and how the medications affect their condition.

Galbreath, Ashley

Dornase Alfa Compared to Inhaled N-acetylcysteine for Bronchiolitis in a Pediatric ICU

Galbreath, Ashley; Elchynksi, Amanda; Bradley, Mary; Lessenberry, Brooke, and Curry, Brent
Arkansas Children's Hospital; Little Rock, Arkansas

Background and Purpose

Dornase alfa and inhaled N-acetylcysteine are mucolytic therapies commonly used off-label in pediatrics with bronchiolitis; however, the 2015 American Association for Respiratory Care Clinical Practice Guidelines recommend against the use of these agents in patients without a diagnosis of cystic fibrosis. The purpose of this study was to compare differences in length of stay and respiratory support in patients diagnosed with bronchiolitis who received either dornase alfa or inhaled N-acetylcysteine in the Pediatric Intensive Care Unit (PICU).

Methods

We conducted a retrospective chart review of Arkansas Children's Hospital patients diagnosed with bronchiolitis from 2017 to 2024. Patients were included if they were initiated on either agent while admitted to the PICU. Patients were excluded if they had a diagnosis of cystic fibrosis, received therapy for less than 24 hours, received a tracheostomy prior to admission, received extracorporeal membrane oxygenation, or died during admission. The primary objectives of this study were to compare hospital and intensive care unit length of stay, and days on supplemental oxygen and invasive mechanical ventilation. Secondary objectives were to compare change in respiratory parameters (oxygen saturation index, positive end-expiratory pressure, and peak inspiratory pressure) after 72 hours and at therapy discontinuation, peak respiratory parameters, and charge of admission and medication.

Results

A total of 186 patients were included, with 139 patients receiving dornase alfa and 47 patients receiving inhaled N-acetylcysteine. Patients who received inhaled N-acetylcysteine had a lower median number of days on invasive mechanical ventilation (4 versus 5, $p=0.01$). Patients who received dornase alfa had a median higher peak oxygen saturation (6.1 versus 7.9, $p<0.05$), peak end-expiratory pressure (7 versus 9, $p<0.01$), and peak inspiratory pressure (26.5 versus 31, $p=0.03$). Patients who received dornase alfa had a median higher charge of medication ($2,193.6 versus $5,293, $p<0.01$).

Conclusions

Those who received inhaled N-acetylcysteine had a lower number of days on invasive mechanical ventilation and those who received dornase alfa had higher peak ventilator parameters. Medication charges were higher for those who received dornase alfa. Future directions include continuing to evaluate current prescribing practices and developing value-based guidance for mucolytic therapy in the pediatric intensive care unit.

Gant, Jessie

Changes in PHQ-9 Score After Clinical Pharmacy Practitioner Intervention in Primary Care Mental Health Integration Clinic

Gant, Jessie; Coveart, Stephanie; Perryman, Dillon
Lt. Col. Luke Weathers, Jr. VA Medical Center, Memphis, TN

Background and Purpose

The Lt. Col. Luke Weathers, Jr. Veterans Affairs Medical Center (Memphis VAMC) expanded clinical pharmacy mental health services to Primary Care Mental Health Integration (PCMHI) in July 2023. This expansion provides opportunity for further evaluation of specialized Clinical Pharmacy Practitioners' (CPP) impact on providing patient centered healthcare and improving mental health outcomes. The purpose of this study was to assess the impact of adding a CPP in PCMHI.

Methods

A retrospective chart review of computerized medical records from the Memphis VAMC was conducted from August 1, 2023 – August 1, 2024, in patients seen by the PCMHI CPP who had pre- and post-intervention PHQ-9 scores. Patients were excluded for reasons such as hospice care, pregnancy/lactation, or if they were seen exclusively for substance use disorder or insomnia treatment. The primary objective of this study was change in PHQ-9 scores. Secondary objectives were to analyze pharmacotherapy agents utilized, concomitant psychotherapy utilization, changes in other measurement-based care (GAD-7, PCL-5), reported side effects and adherence, and disposition after treatment. Descriptive statistics were used to analyze demographic data and outcomes.

Results

A total of 376 patients were screened and 199 patients enrolled. PHQ-9 scores improved in 78.4% of patients, with a median score improvement of 5 points (IQR 9). In patients with documented pre- and post-CPP intervention GAD-7 and/or PCL-5 scores, the median score improvement was 5 points (IQR 9) and 19 points (IQR 19.75), respectively. The most common pharmacotherapy agent utilized was sertraline. 68.3% of patients received concomitant psychotherapy. The medication adherence rate was 88.4% after CPP intervention, and 13.1% of patients experienced an ADR resulting in discontinuation. 48.2% of patients were discharged back to their primary care provider, and only 8.1% were lost to follow up.

Conclusions

Overall, PHQ-9 scores improved after incorporating CPPs in PCMHI clinics. Additionally, other measurement-based care, such as GAD-7 and PCL-5 scores, also improved. These findings suggest patients benefit from CPP expertise to help manage mental health pharmacotherapy, increase treatment adherence, and improve symptoms of various mental health conditions.

Goss, Jacob

Evaluation of an Amikacin Dosing Protocol in a Neonatal Intensive Care Unit

Goss, Jacob; Stuart, Lindsay; Wright, Whitley; Palazzo, Lauren
University of Mississippi Medical Center

Background and Purpose:

Sepsis remains a leading cause of morbidity and mortality in neonates, and aminoglycosides like amikacin are essential components of empiric therapy. However, their narrow therapeutic index necessitates careful dosing and monitoring to avoid toxicity while ensuring efficacy. At Children's of Mississippi, amikacin is commonly used for treating late-onset sepsis. This study aimed to evaluate whether implementing a revised dosing protocol based on Red Book recommendations would improve therapeutic drug level attainment while maintaining patient safety.

Methods:

This single-site, retrospective study was conducted in the neonatal intensive care unit at Children's of Mississippi. Patients who received amikacin between May 2020–December 2021 (pre-group) and April 2022–April 2024 (post-group) were included. Patients were excluded for amikacin use < 48 hours, baseline renal dysfunction, ECMO, misdrawn levels, or deviation from the protocol. A total of 250 neonates (125 per group) were analyzed. The primary outcome was the rate of therapeutic peak amikacin levels (20–40 mcg/mL). Secondary outcomes included nephrotoxicity and supratherapeutic levels.

Results:

Mean peak levels increased from 20.08 to 26.45 mcg/mL after protocol implementation, with therapeutic levels rising from 38.7% to 88.7% ($p < 0.001$). Dose increases were less frequent in the post-group (3.2% vs. 50.8%, $p < 0.001$). No patients in the post-group had both a positive culture and subtherapeutic peak, compared to 13.6% in the pre-group ($p < 0.001$). Dose decreases remained uncommon (3.2% vs. 2.4%, $p = 0.71$), and there was no significant difference in renal decline (5.6% vs. 6.45%, $p = 0.987$).

Conclusions:

Use of the Red Book amikacin dosing protocol significantly improved target peak level attainment and reduced the need for dose increases, without raising the risk of renal toxicity.

Green, Victoria

Change in Chronic Obstructive Pulmonary Disease Assessment Test Score after Pharmacist Intervention within Rural Federally Qualified Health Center Pulmonary Clinics

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[1.] ARcare [2.] Harding University College of Pharmacy

Background and Purpose:

Uncontrolled Chronic Obstructive Pulmonary Disease (COPD) is associated with increased healthcare services and decreased quality of life. While previous studies highlight the impact of pharmacists in improving adherence and inhaler technique, they do not evaluate specific COPD medication recommendations or smoking cessation interventions made by a pharmacist. The purpose of this study is to determine the impact of pharmacist-led consults on COPD control across five Federally Qualified Health Center (FQHC) interdisciplinary pulmonary clinics.

Methods:

This retrospective cohort study analyzed electronic health records data from five FQHC pulmonary clinics in Arkansas. Patients included in the study were aged 18 and older with a definitive diagnosis of COPD, seen by an interdisciplinary team consisting of a clinical pharmacist and healthcare practitioner at least twice (i.e., initial and follow-up visit) between July 2021 and July 2024, and had a documented COPD Assessment Test (CAT) score at both visits. The primary outcome was the change in CAT score from the initial visit to the first follow-up visit. Secondary outcomes included the number and type of COPD-related medication interventions made by the pharmacist and number of patients who received tobacco cessation education and pharmacotherapy recommendations.

Preliminary Results:

Of the 529 patients screened, 32 met inclusion criteria. A decrease in CAT score was observed in 53% (n=17) of patients, with an average score reduction of 7 points (95% CI, 4 to 11). Among these patients, 41% were recommended to initiate a Long-Acting Beta Agonist/Long-Acting Muscarinic Antagonist (LABA/LAMA) inhaler at their initial visit, aligning with current clinical guidelines for COPD management. Smoking cessation education was provided to 84% (n=20) of current smokers and 8% (n=2) of former smokers. 64% (n=14) of patients receiving this education were agreeable to initiating a tobacco cessation pharmacotherapy aid and were counseled on proper use and potential adverse effects.

Conclusions:

Pharmacist interventions in FQHC pulmonary clinics improved COPD symptom control in over half of eligible patients, optimized inhaler therapy in alignment with clinical guidelines, and enhanced smoking cessation support through education and pharmacotherapy recommendations.

Greer, Natalie

Effect of N-Acetylcysteine on the Incidence of Early Allograft Dysfunction in Liver Transplant Recipients

Greer, Natalie[1]; Overton, Courtney[1]; Holman, Kori[1]; Broyles, Joyce E[1,2]; Lyons, Tiffany[1]
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[2]University of Tennessee Health Science Center, Memphis, Tennessee

Background and Purpose

Early allograft dysfunction (EAD) is a life-threatening complication associated with liver transplantation, with a main risk factor being ischemia reperfusion injury (IRI). There is limited guidance available regarding pharmacologic prevention strategies for IRI, but there is a growing interest in using N-acetylcysteine (NAC). Recently, Methodist University Hospital (MUH) has started utilizing NAC as pharmacologic prophylaxis for IRI in orthotopic liver transplant (OLT) patients. The purpose of this study was to compare rates of EAD in OLT recipients before and after the implementation of a NAC reperfusion injury prophylaxis protocol.

Methods

This was a single-center, retrospective chart review at MUH from January 1st, 2023 to September 30th, 2023 and November 1st, 2023 to June 30th, 2024. Adult patients $\geq$ 18 years old that received an OLT were eligible for inclusion. Patients were excluded if they expired within 7 days post-transplant, demonstrated intolerance to NAC, received a multi-organ transplant, or previously received a liver transplant. Patients meeting inclusion criteria were divided into those who received the NAC protocol (exposure group) and those who did not (control group). The primary outcome was the incidence of EAD as measured by changes in bilirubin, AST, ALT, or INR through post-operative day (POD) 7. Secondary outcomes included graft nonfunction by POD 7, changes in renal function by POD 7, and intraoperative blood product requirements.

Results

Of the 126 patients screened, 108 patients were included, with 47 in the exposure group and 61 in the control. On average, patients were 56.5 years old, 50% male, had a MELD 3.0 score of 21.9 with alcoholic cirrhosis being the most common indication for transplant. There was no difference between groups regarding the incidence of EAD (p=0.514). For secondary outcomes, NAC resulted in a statistically significant decrease in the incidence of primary graft nonfunction by POD 7 (p=0.035). All other secondary outcomes were not significantly different, including AKI (p=0.686), eGFR change (p=0.355), and intraoperative blood requirements (p=0.452).

Conclusions

This retrospective study revealed no difference in EAD between the NAC and control groups, but did find a significant reduction in primary graft nonfunction at 7 days.

Greer, Samuel C

Description of Antithrombotic Therapy in Patients Undergoing Endovascular Revascularization for Lower Extremity Peripheral Artery Disease

Greer, Samuel C[1,2]; Bone, Rachel[1]; Hudson, Joanna[1,2]; Jacobs, Anna[1]; Wells, Drew[1]
[1]Methodist University Hospital, Memphis, TN
[2]University of Tennessee Health Science Center, Memphis, TN

Background/Purpose

Dual antiplatelet therapy (DAPT) has traditionally been utilized after endovascular revascularization of lower limb extremities in peripheral artery disease (PAD). Recently, VOYAGER-PAD demonstrated that low-dose rivaroxaban plus low-dose aspirin (SAPT-OAC) was effective in preventing acute limb events in patients undergoing revascularization. Currently, both treatment modalities are recommended; however, there is sparse data directly comparing the two regimens. Furthermore, there is no literature describing apixaban use in this patient population. The purpose of this study was to describe antithrombotic regimens in patients undergoing endovascular revascularization for lower extremity PAD and to explore potential differences in efficacy and safety between regimens.

Methodology

This was a retrospective, multi-center study of adult patients admitted to Methodist Le Bonheur Healthcare hospitals between 01/01/2023 – 08/31/2024 who underwent endovascular revascularization for lower extremity PAD. Patients with surgical revascularization or amputation during the index admission, or with an alternative indication for anticoagulation were excluded. The primary outcome was the frequency of DAPT or SAPT-OAC discharge regimens. Secondary outcomes included 30- and 90-day all-cause readmissions, bleeding events, ischemic events, and amputation within 90 days of discharge.

Results

Of the 200 patients included for analysis, 171 were discharged on DAPT and 29 on SAPT-OAC (85.5% vs 14.5%). Aspirin and clopidogrel was the primary DAPT regimen (n=165, 96.5%). In the SAPT-OAC group, apixaban was the primary anticoagulant used (n=21, 72.4%), with 16 patients receiving full dose (5 mg twice daily). The 30-day all-cause readmissions (DAPT 15.8% vs SAPT-OAC 17.2%, p=0.844) and 90-day all-cause readmissions (DAPT 28.1% vs SAPT-OAC 34.5%, p=0.482) were statistically similar between groups. Bleeding rates were also similar between the groups (DAPT 5.8% vs SAPT-OAC 6.9%, p=0.826). There was a non-statistically significant increase in ischemic events in the SAPT-OAC group (DAPT 18.7% vs SAPT-OAC 24.1%, p=0.269).

Conclusions

The majority of patients were discharged on DAPT after lower extremity endovascular revascularization. The benefit and risks of anticoagulation, particularly with apixaban, in these patients remains uncertain. Future research is needed to investigate the safety and efficacy of apixaban plus antiplatelet therapy in patients with PAD undergoing endovascular intervention.

Griggs, Kyle

Evaluation of Renal Function Markers in Patients Treated with Vancomycin + Piperacillin/Tazobactam vs. Vancomycin + Cefepime

Griggs, Kyle – Author, Weaver, Todd – Co-Author
White River Health – Batesville, AR

Background/ Purpose

Vancomycin used in combination with piperacillin/tazobactam has been associated with an increased risk in acute kidney injury (AKI). However, literature suggests vancomycin + piperacillin/tazobactam affect renal transporters responsible for the secretion of serum creatinine, resulting in elevated serum creatinine levels, and false creatinine defined AKI. We tested this hypothesis by examining renal biomarkers at baseline prior to intervention and at >48 hours of intervention.

Methods

This single center retrospective cohort study reviewed patient EMRs from January 2023 to October 2024. Renal biomarkers were examined before antibiotic treatment and again after >48 hours of intervention.

Results

This study included 272 patients (vancomycin + piperacillin/tazobactam [VN+PT] n = 136, vancomycin + cefepime [VN+CP] n = 136). Patients treated with VN+PT had higher fluctuations in serum creatinine with a mean difference of 5.1%, 95% CI: -3.3%, 13.4%, compared to VN+CP with a mean difference of -6.8%, 95% CI: -10.8%, -2.7%. KDIGO defined AKI, as an increase in serum creatinine greater than or equal to 0.3 mg/dL, occurred in 9.60%, 95% CI: 4.6%, 14.6% of patients receiving VN+PT and 5.10%, 95% CI: 1.4%, 8.9%, of patients receiving VN+CP. Compared to VN+CP, VN+PT was not associated with changes in alternative renal biomarkers such as BUN with a mean percent difference of -14.8%, 95% CI: -22%, -7.6%.

Conclusion

We observed no statistically significant difference in renal biomarkers between patients treated with VN+PT or VN+CP. Based on our findings, our conclusion suggests the hypothesis that the increase in serum creatinine seen with VN+PT may represent pseudonephrotoxicity rather than true acute kidney injury.

Habetz, Brooke

Assessment of Anticoagulation Strategies for Treatment of Cancer-Associated Thrombosis in Patients with Thrombocytopenia

Habetz, Brooke - Author; Hendrix, Rachel - Co-Author
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Background and Purpose

Patients with malignancies are at increased risk of developing cancer-associated thrombosis (CAT). Patients with CAT who become thrombocytopenic may have an increased risk of bleeding, making decisions regarding anticoagulation challenging. Most trials for CAT treatment exclude patients with platelets less than 50,000/µL and there are few studies using direct oral anticoagulants (DOACs) in patients with thrombocytopenia. This research project aims to evaluate how different anticoagulation strategies in this patient population impact rates of thrombosis and major bleeding.

Methods

This study was a single-center, retrospective cohort chart review. Inclusion criteria included patients 18 years or older admitted to University of Arkansas for Medical Sciences Medical Center between July 1, 2020, and June 30, 2024, with a thrombosis diagnosis, platelets <50,000/µL during thrombosis treatment, and a current malignancy at the time of thrombosis diagnosis. Exclusion criteria included history of a clotting disorder, confirmed heparin-induced thrombocytopenia, current pregnancy, or current diagnosis of squamous cell carcinoma or basal cell carcinoma. Patients were divided into four groups based on the chosen treatment strategy after the development of thrombocytopenia. Groups included full-dose anticoagulation, reduced heparin dosing, reduced DOAC dosing, and patients who were not treated with medication. The primary outcome was a composite of recurrent thrombosis or major bleeding. Secondary outcomes included hospital length of stay, all-cause mortality, recurrent thrombosis, major bleeding, and clinically relevant non-major bleeding.

Results

A total of 46 patients were included. The median patient age was 62 (IQR: 49.3-68.8) years. The majority of patients had a pulmonary embolism (72%) and thrombocytopenia for less than 7 days (63%). The primary outcome did not show any statistically significant difference between the varying treatment strategies, with 26% of the total population having either a major bleed or recurrent thrombosis (p=0.93). No significant difference was found between groups for secondary outcomes.

Conclusions

This study suggests that there is no difference in major bleeding or recurrent thrombosis between the four strategies used for treating CAT in patients with thrombocytopenia. This study was likely underpowered; therefore, further investigation is needed.

Hall, Riley

Evaluation of Fixed Dosing vs Weight Based Dosing of Four-factor prothrombin complex concentrate in Intracranial hemorrhage caused by Factor-Xa-Inhibitors

Hall, Riley; Mitchell, Jonathan; Stoltz, Judson; Murphy, Andrew
Baptist Memorial Hospital – Desoto, Southaven, MA

Background and Purpose

Factor-Xa-inhibitor associated bleeding can be a life-threatening complication. Four-factor prothrombin complex concentrate (4FPCC) can be utilized as a reversal agent. However, there have been few studies examining dosing of this medication specifically in intracranial hemorrhage caused by a factor-Xa-inhibitors. With the limited information available, there is a need to evaluate the safety and efficacy of fixed dosing vs weight-based dosing of 4FPCC in intracranial hemorrhage caused by a factor-Xa-inhibitors.

Methods

This is a multi-centered retrospective cohort study at 22 hospitals in the Baptist Memorial Healthcare system. Patients aged 18 years or older who received 4FPCC for the reversal of intracranial hemorrhage caused by a factor-Xa-inhibitor from January 2014 to September 2024 at any Baptist Memorial Hospital will be included. Patients will be excluded if they received any other agents for the reversal of factor-Xa, are pregnant, have a history of disseminated intravascular coagulopathy or heparin induced thrombocytopenia, and if repeat imaging was not obtained. The primary endpoint is hemostatic efficacy. The secondary endpoints are hospital mortality and length of stay. Safety outcome is thrombotic events within 30 days. Baseline characteristics and outcomes will be evaluated using MANOVA for continuous data or chi-square test or Fisher's exact test for nominal data.

Results and Conclusion

To be described.

Hankins, Caragh

Skin and Soft Tissue Infections in a Pediatric Emergency Department: Assessment of Clinical Pathway Utility

Hankins, Caragh**;** Elchynski, Amanda; Dunlap, Kris; Maples, Holly; McMinn, Caleb; Vance, Mary Kathryn
Arkansas Children's Hospital, Little Rock, Arkansas

Background and Purpose

Bacterial skin and soft tissue infections (SSTI) are prevalent in emergency department (ED) settings. Upon diagnosis, patients are commonly prescribed oral and/or topical antibiotics. Inappropriate antibiotic use can increase the risk of treatment failure and adverse effects and can contribute to the development of antibiotic resistance. In 2014, the Infectious Disease Society of America (IDSA) published guidance on treating SSTIs. Arkansas Children's Hospital (ACH) developed a clinical pathway to be implemented in the ED on August 2nd, 2024 to help optimize SSTI treatment. The objective of this study was to evaluate the effect of a clinical pathway implementation on antibiotic selection and duration in ACH ED.

Methods

We conducted a retrospective chart review of patients diagnosed with a SSTI in the ACH ED from January 2024 to October 2024. Data collected included patient demographics, antibiotic regimens, risk factors for methicillin-resistant *Staphylococcus aureus* (MRSA), culture results, and 30-day admission or return ED visit for the same infection. Demographic and pre- versus post-clinical pathway implementation data were analyzed using the chi-square test, Fisher exact test, Mann-Whitney U test, and independent t-test. Statistical significance was considered if $p < 0.05$.

Results

A total of 320 patients were included, 204 pre-pathway implementation and 116 post-pathway implementation. Patient demographics were similar between the groups. Concordance with the IDSA guidelines did not change with the implementation of the clinical pathway (2% vs 2.6%, p=0.71). After implementation, patients were more likely to be prescribed antibiotics at the correct dosing frequency (84.3% vs 93.7%, p=0.02). Treatment duration remained longer than recommended, with less than 10% adherence in both groups (p=0.84). Fewer than 20% of patients in both groups prescribed anti-MRSA coverage had a risk factor for MRSA (p=0.77). Patients post-pathway were more likely to have a culture obtained (18.1% vs 29.3%, p=0.02). There was no difference in recurrent infections requiring a return ED visit (8.8% vs 4.3%, p=0.13).

Conclusions

Implementing a clinical pathway did not improve overall concordance with the IDSA guidelines, but was associated with improved antibiotic dosing frequency. Further efforts should include providing additional education on the clinical pathway and the importance of adhering to the IDSA guidelines.

Hayes, Laurel

Review of Preoperative Antibiotic Utilization Following Protocol Implementation

Hayes, Laurel[1]; Maxwell, Jon[2]; Heath, Kim[2]
1. HCA Healthcare, Nashville, TN
2. Tristar Horizon Medical Center, Dickson, TN

Background and Purpose

The Outpatient Surgical Care Improvement Project (SCIP) Antimicrobial Prophylaxis Protocol was launched on September 26, 2023, at a 158-bed hospital to encourage appropriate utilization of preoperative antibiotics in patients undergoing various surgeries, including cardiac and vascular procedures, hip and knee arthroplasties, colon surgeries, and hysterectomies. This initiative aligns with recommendations from the Joint Commission and has also been expanded by the hospital to cover thoracic, gastrointestinal, cesarean delivery, podiatric, urologic, and general surgeries. The aim of this medication use evaluation (MUE) is to assess antibiotic usage both before and after the implementation of the protocol.

Methods

This retrospective chart review was conducted to evaluate the impact of a protocol on antibiotic selection in patients undergoing Surgical Care Improvement Project (SCIP) procedures at a 158-bed hospital. The study population included patients who underwent SCIP procedures during two time periods: from February 2023 to September 2023 (pre-implementation) and from September 2023 to September 2024 (post-implementation). Patients were identified using procedure codes. Those admitted before their procedure and who had already received antibiotics were excluded. Patient charts were reviewed using electronic health records to extract documented antibiotic allergies, associated reactions, and antibiotics administered before SCIP procedures. Appropriate antibiotic selection was defined as adherence to the protocol, both prior to and after its implementation, and was the primary endpoint.

Results

Results are preliminary pending data analysis.

Conclusions

Conclusions are preliminary pending data analysis.

Hernandez, Michelle

Impact of a Pharmacist Diabetes Management Protocol Within a Telehealth Clinic at a Rural Health Center

Hernandez, Michelle – Author; Breckling, Meghan – Co-Author
UAMS College of Pharmacy | Little Rock, AR

Background and Purpose:

According to the CDC, 11.3% of the U.S. population has diabetes, with higher rates in rural areas than urban ones. Patients in rural areas live further from health services and have poorer healthcare quality than those in urban areas. As 41% of Arkansans live in rural areas, there is need for interventions to increase diabetes care access. Telehealth has improved access to healthcare. In 2020, UAMS pharmacists delivered comprehensive medication management without formal collaborative practice protocol with providers via telehealth. In 2022, a formal Diabetes State Management Protocol was established with providers allowing pharmacists to independently manage patients via telehealth.

Methods

This is year 2 of a single-center, retrospective cohort project, with an extended timeframe. The study aimed to assess the impact of a pharmacy telehealth service before and after the implementation of a pharmacist diabetes management protocol at a system of rural primary care clinics. The primary outcome was the difference in mean HbA1C from baseline to 3 months and 6 months. Secondary outcomes included the percentage of patients with HbA1c < 7%, < 8%, and < 9%, as well as the percent change in total daily dose of insulin (in units administered) from baseline. Existing data were extracted from patient electronic health records. The pre-group timeframe spanned August 1, 2020 – November 30, 2021, while the post-group timeframe extends from January 1, 2023, to April 30, 2024. This study was determined to be institutional review board (IRB)-exempt, as it is a quality assurance assessment.

Results

Results to be described.

Conclusion

Conclusion to be described.

Herring, Emily

Pharmacist-Led Education for Prescribing of Seizure Prophylaxis in Spontaneous Intracerebral Hemorrhage

Primary Author: Herring, Emily; Coauthors: Childress, McKenna, Bright, Bradley
Tristar Skyline Medical Center, Nashville, TN

Background and Purpose

In spontaneous intracerebral hemorrhage (ICH), data has shown that prophylactic antiepileptic drugs (AEDs) are not beneficial, and The American Stroke Association guidelines on spontaneous ICH do not recommend initiation of AEDs in this population. This study aims to determine if pharmacist-led education to physicians can lead to guideline-recommended seizure prophylaxis management in spontaneous ICH patients.

Methods

In this single-center prospective cohort study conducted at a level I trauma center, prescribers were provided education by a pharmacist about guideline recommendations on seizure prophylaxis in spontaneous ICH. Baseline prescribing practices of levetiracetam in spontaneous ICH patients were analyzed via the electronic medical record and clinical surveillance platform. These were used to identify spontaneous ICH patients after the education ceased (September 2024 to February 2025), separating patients based on if levetiracetam was or was not prescribed. Patients excluded were those <18 years old, with baseline seizures receiving an AED, experienced seizures during admission, admitted to hospice <2 days, on paralytics, mortality expected <2 days, or classified as a trauma patient. The primary outcome was guideline-recommended prescribing of seizure prophylaxis. Seizure prophylaxis was defined as levetiracetam for 24 or more hours. Secondary outcomes included length of AED therapy, AED continued outpatient, adverse drug events, and cost. All data was recorded without patient identifiers to maintain confidentiality.

Results

Baseline characteristics were similar between groups. Prior to education, 40.82% of patients were put on levetiracetam, and post-education 39.34% of patients were put on levetiracetam. Mean days on levetiracetam was 12.11 pre-education and 8.03 post-education. In the pre-education group 18.37% of patients were continued on levetiracetam outpatient and 8.2% in the post-education group. Average cost of therapy to the hospital was $12.00 and $50.59 to the patient pre-education and $15.37 to the hospital and $61.56 to the patient post-education. Prior to education, levetiracetam was discontinued by a prescriber or pharmacist in 3 patients, and post-intervention in 8 patients. No results produced a statistically significant p-value.

Conclusions

Though education did not make a statistically significant change in prescribing practices for seizure prophylaxis management in spontaneous ICH, this study displayed the unnecessary costs associated with inappropriate prescribing of levetiracetam in this population.

Hertzka, Molly

Optimizing the Selection of Intravenous Iron Products to Reduce Healthcare Costs

Hertzka, Molly and Wilson, Dylan
Jackson-Madison County General Hospital, Jackson, TN

Background and Purpose

Five IV iron products are available in the United States, each with similar safety and efficacy. Recent utilization trends indicate that infusion service providers are increasingly favoring ferric carboxymaltose and ferumoxytol over iron dextran and iron sucrose due to reimbursement incentives and a desire for shorter infusion times. This study aimed to evaluate commonly utilized IV iron products at our institution to increase treatment affordability for patients, improve inventory management, and optimize reimbursement.

Methods

This retrospective study included patients who received ferric carboxymaltose, iron sucrose, or iron dextran between October 2024 and November 2024. Data collection was completed via chart review and computer-generated reports from the clinic's electronic medical record system. Patients were excluded if their insurance had not yet been billed. The primary endpoint was net revenue for administration of IV iron products at our outpatient infusion clinic. Secondary endpoints included utilization rates and total costs of each iron infusion product, missed potential reimbursement, percentage of paid claims, and net negative reimbursements.

Results

This study included 150 patients, with 9 excluded due to no insurance claim submission, for a total of 315 submitted claims. Of these, 120 claims were for ferric carboxymaltose, 125 claims were for iron sucrose, and 70 claims were for iron dextran. Average net revenue for each iron product varied widely across insurance plans ranging from $-400-2,100 per dose. About 75-95% of IV iron claims resulted in reimbursement; however, 11-41% of reimbursements were not sufficient to cover the acquisition cost. Overall, ferric carboxymaltose infusions more commonly resulted in reimbursements that would sufficiently cover acquisition cost. A total of approximately $100,000 was generated as net revenue during our study period, extrapolating to around $600,000 for a full year. A total of nearly $30,000 was identified as missed potential revenue if the highest reimbursed product was chosen based on each third-party payor.

Conclusions

Overall, the results support the selection of ferric carboxymaltose over other IV iron products in clinics that prioritize shorter infusion times and limited inventory. Facilities that maintain an inventory of multiple IV iron infusion products would benefit from selecting IV iron products with highest rates of net reimbursements.

Hester, Morgan

Safety and Efficacy of Direct Oral Anticoagulants Versus Warfarin for Venous Thromboembolism Treatment in Obese Patients

Hester, Morgan; Krushinski, Kelsey; Burton, Ginger; Crawford, Allie
Baptist Memorial Hospital – Memphis, TN

Background and Purpose

Venous thromboembolism (VTE) is a serious condition estimated to affect 900,000 individuals annually. Historically, treatment of VTE included parenteral anticoagulation, typically low-molecular weight heparin or intravenous heparin bridged to the vitamin K antagonist, warfarin. Due to the unfavorable characteristics of these agents, direct oral anticoagulants (DOACs) have become the mainstay of therapy for VTE, however there is limited data on the use of DOACs in obese patients. This study aimed to evaluate the safety and efficacy of DOACs compared to warfarin for the treatment of acute VTE in obese patients.

Methods

This single-center, retrospective medical chart review compared the efficacy and safety of DOACs to warfarin for the treatment of acute VTE in obese patients. Patients admitted to Baptist Memorial Hospital-Memphis for first episode of acute VTE from January 1st, 2022 to December 31st, 2023 who are 18 years or older, on anticoagulation with warfarin, apixaban, or rivaroxaban, and with an actual body weight >120 kg or BMI > 40 kg/m^2 were included. Patients were excluded for the following: history of mechanical heart valve, severe mitral stenosis, history of antiphospholipid syndrome, pregnancy, or any anticoagulation indication other than acute VTE treatment. The primary outcome was the incidence of new VTE events (DVT/PE) or stroke at 6 months after initiation of anticoagulation. Secondary outcomes include 12 month mortality, 30 day hospital readmission, 90 day hospital readmission, and incidence of major bleeding.

Results

A total of 59 patients met inclusion criteria and 81% received apixaban, 15% received rivaroxaban, and 3% received Warfarin for treatment of VTE. No patients met the primary outcome of new VTE or stroke at 6 months and only 2 (3%) of patients receiving apixaban had an incidence of major bleeding. This study did not meet power, so the results are descriptive in nature.

Conclusion

This study suggests DOACs, specifically apixaban, are safe and effective for acute VTE treatment in obese patients. There were no significant events such as recurrent VTE, stroke, however two patients receiving Eliquis experienced major bleeding.

Higgins, Lily

Characteristics of Pediatric Oncology Patients Receiving Romiplostim or Eltrombopag for Chemotherapy-Induced Thrombocytopenia

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Background and Purpose

Thrombopoietin receptor agonists (TPO-RAs) such as romiplostim and eltrombopag are used to stimulate platelet production. They have been historically used in chemotherapy-induced thrombocytopenia (CIT), a complication of chemotherapy that results in treatment delays, increased bleeding risk, and greater transfusion needs. It is unknown how efficacious TPO-RAs are compared to administering platelet transfusions alone to reduce chemotherapy delays and unwanted complications.

Methods

We included all patients with a solid tumor who received at least one dose of a TPO-RA (eltrombopag or romiplostim) for CIT at St. Jude Children's Research Hospital from 2022 to 2024. Patients with a solid tumor diagnosis, with matching demographic criteria, but did not receive a TPO-RAs were used to identify the control group. Patient demographics, labs, chemotherapy received prior to TPO-RA, TPO-RA dosing details, anticoagulant administration, platelet transfusion history were then collected from the electronic health record. All data were recorded and analyzed in a secured Microsoft Excel® file.

Results

9 patients who received TPO-RA met inclusion criteria. 9 patients were matched to this cohort. For romiplostim, patients received an average of 5 doses per course with an average of 3 courses. The patient that received eltrombopag received 94 doses of eltrombopag over 6 courses. TPO-RAs did not reduce chemotherapy course delays for pediatric solid tumor patients compared to patients receiving platelets alone (standard of care; SOC) for CIT. In the TPO-RA group, 9/49 (18%) of chemotherapy courses were delayed due to CIT versus 4/49 (8%) courses for SOC. 24/49 (51%) courses of chemo in the TPO-RA group were reduced intensity versus 4/49 (8%) of courses in the SOC group. Platelet utilization in either group did not significantly differ.

Conclusions

TPO-RA in CIT pediatric solid tumor patients did not reduce administration delays of chemotherapy courses. Chemotherapy intensity reduction required in 51% of courses in patients receiving TPO-RA. TPO-RAs courses lasted > 5 weeks with multiple patients requiring several courses. Incorporating TPO-RAs in pediatric solid tumor patients with CIT needs to be further studied, including more diverse patient population and larger sample size.

Hoggard, Tori

Assessing the Accuracy of Initial Heparin-Induced Thrombocytopenia Diagnoses in a Community Hospital

Hoggard, Tori[1], Turner, Mallory[1,2], and Smith, Forrest[2]
Unity Health – White County Medical Center, Searcy, AR[1]
Harding University College of Pharmacy, Searcy, AR[2]

Background and Purpose

Heparin-induced thrombocytopenia (HIT) occurs in 0.1-5% of patients exposed to heparin (Salter et al., 2016). Over-diagnosis can result in unnecessary costs and ICU admittance while under-diagnosis can lead to life-threatening thromboembolic complications. This study aimed to determine whether this community hospital accurately diagnoses HIT by identifying patients treated for HIT with a positive serotonin release assay (SRA). Additionally, the 4Ts score is a validated tool to assist in accurate HIT diagnosis, but the frequency of use in this hospital is unclear. This study also aimed to determine the frequency of documented 4Ts scores in patients treated for HIT and associated outcomes.

Methods

This retrospective chart review of electronic medical records from August 1, 2022 to July 31, 2024 identified patients in a community hospital who had an accurate diagnosis of HIT with a positive SRA serving as confirmation. Primary outcome data includes patients with a HIT diagnosis who received argatroban, bivalirudin, or fondaparinux with SRA results. The primary data was analyzed for the frequency at which these patients had a confirmation of HIT to determine the accuracy at which we initiated HIT treatment. The data also served to identify the frequency at which 4Ts scores were documented as well as the corresponding scores for patients diagnosed and treated for HIT. The results of this research will determine the need for a formalized protocol for assessing probability of HIT.

Results

Data analysis is in progress. Results will be described.

Conclusions

Conclusions to be determined based upon results of data analysis.

Hopkins, Jordyn

Evaluating the Use of Tenecteplase versus Alteplase for Acute Ischemic Stroke

Hopkins, Jordyn; Perry, David; Hasford, Erika; Summers, Karen
Maury Regional Medical Center – Columbia, Tennessee

Background and Purpose

Acute ischemic stroke is a life-threatening condition that if not treated properly could lead to permanent brain damage or death. Annually 795,000 patients in the United States experience a stroke, with 87% of those being acute ischemic stroke (AIS). Treatment includes thrombolytic medications, mechanical thrombectomy, and supportive treatments. Alteplase and tenecteplase are two thrombolytic medications that are FDA approved for treatment of AIS. Tenecteplase has recently gained approval as of March 2025 for this indication. These medications enhance the conversion of plasminogen to plasmin to initiate fibrinolysis to break up clots.

Methods

This study was approved by the hospital's Institutional Review Board. It is a retrospective chart review of patients 18 years and older admitted to Maury Regional Medical Center with a diagnosis of AIS that received either tenecteplase or alteplase between June 2022 to June 2024. Exclusion criteria include patients less than 18 years of age, patients transferred to an outside hospital, and any contraindications to receive either medication. Patients were identified through electronic medical records and diagnostic codes. The primary outcome is the incidence of symptomatic intracranial hemorrhage (ICH) after the administration of either medication. The secondary outcomes include improvement in the National Institute of Health Stroke Scale (NIHSS) scores, time to administration, and cost savings. The data will be analyzed using chi square tests and a cost savings analysis.

Results

Seventy-four patients met inclusion criteria. In the tenecteplase group, 4 patients experienced symptomatic ICH compared to 1 in the alteplase group. (95% CI -0.26-0.02, p=0.04). Patients in both the alteplase group and tenecteplase group improved or maintained cognitive scores (p=0.35). The most common time to administration in the alteplase group was 3.5-4 hours, while the tenecteplase group was 1.5-2 hours (p=0.23). Estimated cost-savings for using tenecteplase over alteplase is $45,000.

Conclusion

Although there were higher rates of symptomatic ICH in the tenecteplase group, it is a viable alternative for acute ischemic stroke patients. Tenecteplase is shown to have a shorter time to administration as well as being a cost-saving alternative. It has shown to be equally effective as alteplase in improvement of cognitive function.

Hose Stebly, Brian

Impact of Expanded Dosing in Unfractionated Heparin on Efficacy and Safety During Treatment of Acute Coronary syndrome and Venous Thromboembolism at a Community Hospital

Hose Stebly, Brian; Walley, Jeremy; Crispi, Stephen
Cookeville Regional Medical Center

Background/Purpose

Controversy exists regarding the maximum dose limits of unfractionated heparin (UFH). Current ACC/AHA guidelines recommend a maximum initial dose for treatment of both venous thromboembolism (VTE) and acute coronary syndrome (ACS). The guidelines cite the Raschke et al. trial, which standardized weight based UFH dosing and applied maximum bolus dose of 5,000 units for VTE or bolus of 4,000 units for ACS as well as a maximum initial infusion of 1,000 units/hr for ACS. These recommendations can lead to a significant delay to therapeutic anticoagulation in obese patients whose weight-based bolus dose is severely restricted by the dose recommendations. This has been shown by previous studies and an MUE at our institution. A delay in time until therapeutic anticoagulation is achieved may result in poor outcomes such as thrombus expansion leading to increased morbidity, mortality, and length of stay.

Recent studies have shown no increased bleeding risk with weight based dosing strictly using actual weight. Current recommendations are to use adjusted body weight if actual body weight is greater than 120% the ideal body weight. As a result, there is no consensus on the correct dosing weight for UFH.

Recent areas of improvement for heparin in literature have centered around decreasing the time to therapeutic levels of anticoagulation. Institutions are seeing an increase in the time until a patient is therapeutically anticoagulated. This has sparked studies looking at removing and increasing the maximum doses for UFH as well as studies using only actual body weight.

Methods

This is an open-label, prospective trial assessing expanded heparin dosing effects on anticoagulation in hospitalized patients with ACS or VTE. The primary outcome measured is time to first therapeutic activated partial thromboplastin time (aPTT). The main safety outcomes are events of major and minor bleeding according to the International Society on Thrombosis and Haemostasis (ISTH) bleeding classifications. Other outcome measures include the stratification across weight classes, mean time to therapeutic aPTT, and hospital length of stay (LOS).

Results/Conclusion

Results and data collection are pending at this time.

Hoskins, Emily

Evaluation of Patient Outcomes Associated with Administration of Long-Acting Injectable Antipsychotics in the Inpatient Psychiatric Setting

Hoskins, Emily[1]; Wiggins, Elizabeth[1]; Lightfoot, Myaa[2]
[1]HCA Healthcare, Nashville, TN, [2]Tristar Centennial Medical Center, Nashville, TN

Background and Purpose

The American Psychiatric Association (APA) recommends the use of antipsychotic long-acting injectables (LAI) for patients with schizophrenia with a history of nonadherence/unclear adherence or patient preference for an injectable. Long-acting injectable antipsychotics (LAIs) are often initiated in outpatient settings, however, in the inpatient setting, LAIs are less frequently initiated but may be used to address nonadherence or as part of discharge planning to improve continuity of care. This study evaluates the impact of administering long-acting injectable antipsychotics (LAIs) in the inpatient psychiatric setting, focusing on readmission rates and treatment regimens post-readmission.

Methods

This retrospective, multi-site study was conducted at two HCA Healthcare psychiatric hospitals from June 1, 2023, to June 1, 2024. Subjects included patients aged 18–89 who received either risperidone microspheres LAI or paliperidone palmitate LAI during their inpatient stay. Comparisons were made between LAI groups and a randomly selected cohort discharged on oral antipsychotic therapy. Outcomes included 90-day readmission rates and treatment regimens upon readmission.

Results

A total of 187 LAI doses were administered during the study period, including 134 paliperidone LAI doses and 53 risperidone LAI doses, across 128 admissions (80 admissions for paliperidone LAI and 48 for risperidone LAI). Regarding readmissions within 90 days, 17 patients from the paliperidone LAI group and 13 from the risperidone LAI group were readmitted. Among the 80 randomly selected patients discharged on oral therapy, 13 of 40 in the paliperidone oral group and 10 of 40 in the risperidone oral group were readmitted. For the secondary outcome in the LAI group, treatment regimens upon readmission included continuation of the same LAI in 17 patients, a switch to a different LAI in 3 patients, and oral monotherapy in 10 patients.

Conclusions

The findings emphasize the importance of enhanced discharge planning, including ensuring timely follow-up for injections and addressing cost and insurance barriers. These results also highlight the need for further research into treatment decisions post-readmission and their long-term effects on patient outcomes.

Houeye, John

Rate of Acute Kidney Injury Using AUC Dosing Compared to Traditional Trough Dosing of Vancomycin

Houeye, John[1], Bailey, Daniel[1&2], and Smith, Forrest[2]
Unity Health – White County Medical Center, Searcy, AR[1]
Harding University College of Pharmacy, Searcy, AR[2]

Background and Purpose

Vancomycin is a Glycopeptide antibiotic that is traditionally used as an empiric antibiotic for patients with suspected Methicillin Resistant Staphylococcus Aureus (MRSA) infections in the hospital setting. Vancomycin utilization does carry some risks such as drug induced immune thrombocytopenia, ototoxicity, infusion reaction (Red man's syndrome), and nephrotoxicity**.** Vancomycin requires monitoring of its trough concentration levels to ensure its therapeutic effectiveness and to minimize toxicities. The purpose of this study is to determine if using AUC dosing of Vancomycin reduces the incidence of acute kidney injury as compared to traditional trough dosing.

Methods

This single center, retrospective chart review study will evaluate the incidence of AKIs over a 6 month period of trough monitoring and 6 months after the initiation of AUC dose monitoring. The primary outcome of the study is acute kidney injury events in patient's receiving intravenous Vancomycin. This study will use the KDIGO AKI definition of an increase in serum creatinine of at least 0.3 mg/dL within 48 hours or an increase of 1.5 times from baseline of the prior within 7 days. The secondary outcomes will be a median inpatient length of stay, all-cause inpatient mortality, average time to therapeutic levels, average daily dose of vancomycin, subtheraputic and supratheraputic vancomycin levels. This study will include patients who have received at least 3 days of intravenous vancomycin. The study will exclude dialysis patients, patients under the age of 18 years old, pregnant patients, patients receiving less than 3 days of vancomycin therapy, and people who developed an AKI prior to admission or within 48 hours prior to starting Vancomycin.

Results

Data analysis in progress, and results will be described.

Conclusions

Conclusion to be determined upon results of data analysis.

Hudspeth, Alexis

The Impact of Pharmacy Driven Medication Reconciliation on Hospital Length of Stay

Hudspeth, Alexis (Primary Investigator); White, Lindsay (Sub-Investigator), Sidebottom, Ashley (Sub-Investigator), Wolters, Madeline (Sub-Investigator)

Baptist Memorial Hospital – Memphis

Background and Purpose

Medication reconciliation, or comprehensive review of a patient's outpatient medication list to include all prescription and non-prescription medications, improves continuity of care. Previous studies have established that effective medication reconciliation at transitions of care can reduce medication errors and potentially impact hospital length of stay in acute care admissions. Baptist Memorial Hospital – Memphis has a pharmacy-driven medication reconciliation team of pharmacists and technicians who ensure accurate, up to date medication lists through communication with patients, caregivers, and health facilities. This study evaluates the accuracy of this process and its impact on hospital length of stay.

Methods

This is a single-center retrospective chart review of patients admitted to Baptist Memorial Hospital – Memphis between August 1, 2023, and August 1, 2024 for whom the pharmacy performed medication reconciliation during their hospital stay. The primary endpoint is the length of hospital stay for those with a completed medication reconciliation. Secondary endpoints include pharmacist driven interventions to inpatient orders via iVent per hospital policy. Those included were patients admitted to Baptist Memorial Hospital - Memphis with at least one medication to reconcile. Patients were excluded if they were under eighteen years of age, received active chemotherapy, incarcerated, on palliative care, or discharged to a care facility.

Results

The hospital length of stay was analyzed for 120 patients who underwent a pharmacy-driven medication reconciliation and compared to the average stay from August 1, 2023, to August 1, 2024. Sixty-two patients were Black; 53 were White; 3 were Hispanic; and 2 were of another descent. Most had histories of hypertension, hyperlipidemia, diabetes, and coronary artery disease. Medication reconciliation was completed within 24 hours for 64% of patients, and interventions were made for the same percentage, primarily adding or removing medications. Key information sources included medical records (42%), patient interviews (31%), and caregivers (12%). Patients who received medication reconciliation had an average stay of 5.36 days, compared to 7.68 days for those who were not included in the medication reconciliation process.

Conclusions

Pharmacy driven medication reconciliation showed a reduction in the average length of stay for patients admitted to the hospital.

Huggins, Brian

Comparison of Early Propofol Requirements Between Multiple Body Weight Categories Post-Intubation

Huggins, Brian[1]; Samarin, Michael[1]; Clark, Kacie[1]; Cutshall, B. Tate[1]; Twilla, Jennifer[1]
Methodist University Hospital – Memphis, TN[1]

Background and Purpose

Propofol is a commonly used sedative in mechanical ventilation, due to rapid onset and titratability. Its lipophilic properties result in high volume of distribution, causing accumulation in adipose tissue and pharmacokinetic differences in obese patients. Dosing adjustments based on body weight may help achieve sedation goals and reduce adverse events. Current literature is limited on optimal dosing across multiple body types for critically ill, mechanically ventilated patients. This study describes the relationship between body mass index (BMI) and propofol dosing to achieve adequate sedation in obesity.

Methods

This is a single-healthcare system, retrospective study of critically ill patients admitted to Methodist LeBonheur Healthcare between February 1, 2023, and September 30, 2024. Adult, mechanically ventilated patients that received propofol as the initial continuous infusion sedative within 6 hours of intubation were included. The primary outcome compared cumulative propofol requirements in mg/kg by actual body weight in first 24 hours of intubation between non-obese BMI <30 kg/m^2), obese (BMI = 30-40 kg/m^2), and morbidly obese (BMI >40 kg/m^2) patients based on BMI. Secondary outcomes included rate of sedation goal achievement in the first 24 hours, and adverse effects.

Results

Thirty-two patients met inclusion criteria and were 50% male, 72% Black, on average 58 years old, and 80 kg. Greater BMI groups required lower propofol doses over the initial 24-hour period following intubation at 59.07 mg/kg, 33.70 mg/kg, and 23.33 mg/kg for non-obese (n=21), obese (n=5), and morbidly obese (n=6) patients, respectively (p=0.065). Average Riker Sedation Agitation Scale scores in first 24 hours were 3.64, 3.21, and 3.89 for non-obese, obese, and morbidly obese patients, respectively (p=0.208). Time to sedation goal from propofol initiation was 4.91, 4.18, and 8.88 hours for these same groups (p=0.171). Incidence of hemodynamic instability was 52% and 60% in non-obese and obese patients, with none in the morbidly obese group (p=0.124).

Conclusions

As BMI increased, lower cumulative doses of propofol were administered during the 24-hour post-intubation period. These results are preliminary, and further data collection will help inform appropriate weight-based dosing strategies for continuous infusion propofol.

Hughes, Kobie

Impact of a Pharmacist-Led Insulin Dose Reduction Protocol on Glycemic Control in Hospitalized Patients

Hughes, Kobie and Bobinger, Caroline
Mississippi Baptist Medical Center, Jackson, Mississippi

Background/Purpose

Hypoglycemia is a significant concern in hospitalized patients, as it is associated with higher rates of morbidity and mortality. At Mississippi Baptist Medical Center (MBMC) hypoglycemic events comprise the majority of adverse drug events. Preliminary analyses have shown that continuation of home insulin doses is a common factor contributing to nearly half of the hypoglycemic events in inpatients at MBMC. A pharmacist-led initiative was implemented August 15, 2024. This protocol allows the verifying pharmacist to reduce the basal insulin dose by 30% if the physician orders the same home basal dose and their most recent blood glucose <300 mg/dL. This study will determine the impact of this initiative on glycemic control at MBMC.

Methods

This retrospective, observational study included patients admitted to MBMC whose initial basal insulin dose was reduced by pharmacists between August 15, 2024, through December 31, 2024. Pharmacists reduced patient's basal insulin dose by 30% if the home basal insulin dose was reordered and the blood glucose was < 300 mg/dL. A report was generated from the electronic health record to identify patients who had their insulin dose adjusted. The primary outcome illustrates the incidence of hypoglycemic events (glucose < 70 mg/dL) within 24 hours after the basal insulin dose reduction. Secondary outcomes included the incidence of severe hyperglycemia (glucose ≥ 300 mg/dL) within the same period and the rate of correct implementation of the home basal insulin dose reduction protocol.

Results

At the end of the study period, there were a total of 280 blood glucose values analyzed and 59 basal insulin dose reductions. Hypoglycemic events occurred 9 times (3.2%), while severe hyperglycemic events transpired 14 times (5%). The protocol for a home basal insulin dose reduction was correctly implemented 97% of the time.

Conclusion

Pharmacist-led basal insulin dose reductions were associated with a low incidence of hypoglycemic events and did not lead to an increase in severe hyperglycemic events in diabetic patients at MBMC.

Hunt, Ashley

Impact of Extended Duration Letermovir Prophylaxis on Cytomegalovirus Reactivation in Allogeneic Hematopoietic Stem Cell Transplant Patients

Hunt, Ashley; Evans, Amy; Mills, Elizabeth; Baird, Mallory
Baptist Memorial Hospital – Memphis; Memphis, TN

Background/Purpose

Cytomegalovirus (CMV) infection can lead to increased morbidity and mortality among allogeneic hematopoietic stem cell transplant (HSCT) recipients. Most CMV reactivations occur within 60 days post-transplant, but higher risk patients can experience reactivation after more than 100 days. In 2017, prophylactic letermovir was approved through day 100 in CMV-seropositive allogeneic HSCT recipients. Recent studies have shown a decrease in CMV reactivations with prophylaxis beyond 100 days, resulting in approval of letermovir through day 200 post-transplant. This study aims to evaluate the impact of extended duration letermovir prophylaxis on CMV reactivation rates in HSCT patients at Baptist Memorial Hospital-Memphis (BMH-Memphis).

Methods

This single-center, retrospective chart review compared CMV reactivations among patients who received allogeneic HSCT transplants at BMH-Memphis between December 1, 2017 to December 31, 2023 who completed standard of extended duration letermovir prophylaxis after transplant. Patients were excluded if they did not receive letermovir or experienced relapse, death, or transition to hospice within 100 days post-transplant. Included patients were separated into four groups – standard, extended, prophylaxis failure, and early discontinuation due to cost or intolerability. The primary outcome was the difference in CMV reactivation rates between the standard and extended duration subgroups. Secondary outcomes included the difference in rates of symptomatic disease, time to reactivation after prophylaxis, and viral thresholds used for initiating pre-emptive treatment.

Results

Power was not met due to the small sample size, so results are descriptive in nature. 51 patients were divided into subgroups: 27 standard duration, 17 extended duration, and 6 early discontinuation. There was no difference in the primary endpoint of reactivations between standard and extended duration (25% vs. 24%, p=0.911). Symptomatic reactivations occurred more frequently in patients who received extended duration prophylaxis (75% v. 57%, p=0.355). The median time to reactivation after prophylaxis discontinuation was 36.5 days (IQR 19.25-44.5). The median viral load when pre-emptive treatment was initiated was 168 (IQR 90-759).

Conclusion

This study suggests there was no difference in CMV reactivation rates between standard and extended duration prophylaxis in the sample population. There was no difference between symptomatic infection rates between groups. CMV reactivation occurred around 1 month after letermovir discontinuation across groups.

Hustad, Matthew

Medication Indication Selection Variance Based on Computerized Provider Order Entry User Interfaces

Matthew J. Hustad; William Cooper; Will Hedges; Connie L. Saltsman; Caleb Hammons; Shreya Bodar; Huner Aradini; William Gregg
HCA Healthcare, Nashville, TN

Background and Purpose

Intentional presentation of information to users is an integral part of Electronic Health Record (EHR) and Computerized Provider Order Entry (CPOE) design. Selections from drop-down menus and screen designs that limit end-users from seeing all available options may interfere with end-user workflow patterns. Additionally, appropriate selection of medication indications help drive appropriate medication use and efficient patient care team communication. The objective of this study is to examine potential variance among indication selection when all indications are presented to users in a comprehensive view compared to a drop-down menu that requires scrolling to view all available indications.

Methods

This retrospective study will examine medication indications selected before and after a new EHR with a different indication screen presentation was implemented at selected facilities within a large healthcare network. Indications will be collected for the medication classes of antibiotics, proton pump inhibitors, histamine type-2 receptor antagonists, and oral methotrexate. Orders for patients 18 years of age or older will be included from a five-month period. A thirty-day washout period immediately following implementation at each facility will be included. The indication selection patterns will then be compared to selection patterns during the same five-month period from the year before when these facilities were utilizing the previous EHR. Additionally, the study will include a comparison of indication selection variance based on patient location when each order was placed. Complete inclusion and exclusion criteria will be determined based on data extraction capabilities following Institutional Review Board (IRB) approval. Statistical significance will be determined pending data analysis.

Results

Results pending final data analysis

Conclusion

Conclusions pending final data analysis

Hutton, Corey

Identifying Discrepancies and Improving Hospital-Wide Medication Reconciliation

Hutton, Corey - Author; Gibbs, Andrew - Co-Author; Hamilton, Eric - Co-Author
Baptist Health Medical Center North Little Rock; North Little Rock, Arkansas

Background

Medication reconciliation (Med Rec) is a critical process in preventing medication errors during transitions of care. While nurses often conduct initial Med Rec upon patient admission, discrepancies may persist, leading to potential adverse drug events.

Purpose

This study aims to assess the accuracy of nurse-completed medication reconciliations by having a pharmacist conduct a secondary review to identify and resolve discrepancies, including omitted medications, duplications, incorrect strengths, incorrect formulations, and necessary updates to the prior-to-admission (PTA) medication list.

Method

A pharmacist will review medication reconciliation documentation completed by nurses for hospitalized patients and compare the recorded PTA medication lists with patient-reported medication use, outpatient pharmacy records, and other reliable sources. Discrepancies will be categorized, quantified, and classified based on potential clinical impact. Recommendations for correction will be documented and communicated to the healthcare team.

Results

The study uncovered a significant number of discrepancies that could impact patient safety. The findings will highlight the need for medication reconciliation interventions and support strategies to enhance interdisciplinary collaboration in medication management.

Conclusion

Ensuring accurate medication reconciliations are essential to optimizing patient care and preventing medication-related harm. This study provides valuable insight into the role of pharmacists in verifying and improving Med Rec accuracy, ultimately enhancing patient safety and medication-use outcomes.

Hylton, Chelsea

Retrospective Review of Sodium Glucose Cotransporter 2 Inhibitors (SGLT2) Cardioprotective Effects in Patients Treated with anti-PD-1 Monoclonal Antibodies

Hylton, Chelsea; Welch, Hope
Baptist Memorial Hospital-Golden Triangle (Columbus, Mississippi)

Background and Purpose

SGLT2i have demonstrated renal and cardioprotective benefits, including reduced mortality in patients with CHF, with or without diabetes. Anti-PD-1 monoclonal antibodies, used in the treatment of various cancers, are associated with cardiovascular adverse effects. Clinical studies support the use of SGLT2i in cardio-oncology, particularly in patients receiving anthracyclines or other cardiotoxic chemotherapies, there is a lack of evidence regarding the effectiveness of SGLT2i in patients treated with anti-PD-1 monoclonal antibodies. The purpose of this study is to evaluate changes in ejection fraction in patients without a history of CHF who are concomitantly treated with anti-PD-1 monoclonal antibodies and SGLT2 inhibitors

Methods

Retrospective review of the electronic health record of patients within the Baptist Memorial Healthcare System treated with anti-PD-1 monoclonal antibodies, pembrolizumab or nivolumab, from September 4, 2020 to September 3, 2024. The primary outcome will be to assess improvement in ejection fraction percentage based on echocardiogram results in patients receiving anti-PD-1 monoclonal antibodies and SGLT2 inhibitors. Patients will be included that are 18 years of age and older, receiving at least one dose of anti-PD-1 monoclonal antibodies, and SGLT2 inhibitors. Patients will be excluded if they have a history or diagnosis of heart failure or are incarcerated. The following data will be collected: patient demographics including age; weight and sex; medical diagnoses including type of cancer being treated; ejection fraction at baseline and end of study time period; renal function including serum creatinine; chest x-rays to assess for cardiomegaly; length of time on SGLT2i and which medication was utilized; and anti-PD-1 monoclonal antibodies (medication and length of therapy).

Results

To be presented

Conclusion

To be presented

Ibrahim, Kadija

Timing of postoperative beta blocker administration and incidence of postoperative atrial fibrillation in Veterans undergoing coronary artery bypass surgery

Ibrahim, Kadija; Hunt, Molly; Reeves, Sidney D.; Conaway, Brandon
Memphis VA Medical Center, Memphis, TN

Background and Purpose

Current evidence supports beta blocker use in postoperative CABG patients to prevent post-operative atrial fibrillation (POAF). However, the exact dose or timing of beta blockers and how this may affect incidence of POAF is still unclear. This study's purpose is to evaluate if timing of postoperative beta blocker administration impacts incidence of POAF.

Methods

This study was a retrospective, observational cohort study looking at postoperative CABG patients in the Lt. Col. Luke Weathers, Jr. VA Medical Center. A structured query analysis (SQL) was performed to identify postoperative CABG patients from January 1, 2010 to April 1, 2025. The study subjects were then divided into those who did develop POAF after a CABG and those who did not develop POAF after a CABG. The primary endpoint was timing of first beta blocker dose post CABG in hours. Secondary outcomes included hospital length of stay (LOS), ICU LOS, extubation on postoperative day zero, perioperative beta blocker use and doses, initiation during hospitalization of antiarrhythmic or anticoagulation, and discharge on antiarrhythmic or anticoagulation.

Results

Preliminary results include 13 patients in the POAF group and 32 patients in the no POAF group. The mean time to first beta blocker dose was 6.8 ±4.9 hours in the POAF group and 9.8 ± 8 hours in the no POAF group. The average beta blocker dose given through post-op day 3 was 201 ± 40.3 mg in the POAF group and 203.9 ± 72.8 mg in the no POAF group. Data collection is still ongoing.

Conclusions

Final conclusion is pending results of data collection and analysis.

Inaba, Keita

Evaluation of a Meds to Beds Service and its Impact on 30-Day Readmissions

Keita, Inaba, Ian Decareaux, Ashley Sidebottom, Lindsay White
Baptist Memorial Hospital – Memphis, TN

Background and Purpose

Hospital readmissions are associated with a higher degree of patient mortality as well as an increased financial burden for hospital systems. Most hospitals experience a high volume of readmissions, which can lead to fines and budget cuts from the Centers for Medicare & Medicaid Services (CMS) under the Hospital Readmissions Reduction Program (HRRP). This applies to any unplanned readmissions that happen within 30 days of discharge from the initial admission. The readmission metric includes patients who are readmitted to the same or different acute care hospital. HRRP aims to encourage hospitals to improve care coordination to reduce avoidable readmissions. Barriers to medication access and non-adherence are factors that largely impacts hospital readmission rates. The aim of this study is to assess the impact of a Meds to Beds (M2B) service on hospital readmission rates among all patients.

Methods

This is a single-center, retrospective chart review of patients who were admitted to the hospital from July 1, 2023 to July 1, 2024. The primary endpoint is the number of 30-day all-cause readmissions among all patients who received bedside medication delivery versus all patients admitted to Baptist Memorial Hospital – Memphis. The secondary endpoints are descriptive analysis of 30/60/90-day same-cause readmissions for those that got M2B, proportion of patients who received M2B that presented to the emergency department within 30/60/90 days, and proportion of 30-day all-cause readmissions based on insurance status.

Results

A chart review of 327 patients was conducted, 27 patients were excluded. Of the 300 included, 168 patients did not receive the M2B service, and 81 patients did. The primary outcome of 30-day all cause readmissions was reduced (P=0.033) in the patients who received the M2B service. For patients who received M2B we saw a readmission rate of 8.3% compared to hospital's 12.4% in the readmission rate in the entire hospital. There were 15 same-cause 30-day readmissions. Breakdown as follows: 5 infectious, 4 respiratory, 2 pain, and 4 miscellaneous.

Conclusion

The study found that the M2B service reduces the number of 30-day readmissions and has a positive impact on reducing medication and access barriers.

343 with headers 340 words without (348 actual word count / 350)

Jacobus, Lexi

Appropriate Use of Antipseudomonal and Anti-MRSA Agents as Empiric Therapy for Community-acquired Pneumonia

Jacobus, Lexi[1], Neal, Lincoln[1], and Smith, Forrest[2]
Unity Health – White County Medical Center, Searcy, AR[1]
Harding University College of Pharmacy, Searcy, AR[2]

Background and Purpose

Broad-spectrum antibiotics are often overused for the treatment of community-acquired pneumonia (CAP). The American Thoracic Society (ATS) and Infectious Diseases Society of America (IDSA) guidelines for the diagnosis and treatment of adults with CAP provide recommendations for when a patient presenting with signs and symptoms of CAP should be treated empirically for *Pseudomonas aeruginosa* and methicillin-resistant *Staphylococcus aureus* (MRSA). Risk factors that indicate need for antibiotics to treat these organisms include prior infection with either organism or hospitalization and treatment with intravenous antibiotics in the last 90 days. The overuse of broad-spectrum antibiotics is associated with an increased risk of adverse effects, subsequent multi-drug-resistant infections, and *Clostridium difficile* infections. The objective of this research is to evaluate the appropriateness of anti-pseudomonal agents and anti-MRSA agents used empirically for the treatment of CAP among patients presenting to the emergency department and admitted as inpatients at Unity Health hospital in Searcy, AR.

Methods

This single-center, retrospective chart review identified patients at Unity Health Medical Center with a pneumonia diagnosis who were treated with an anti-pseudomonal agent and/or an anti-MRSA agent. This chart review was conducted for the timeframe of January 1, 2024 to June 30, 2024. Inclusion criteria included age 18 years or older, a diagnosis of community-acquired pneumonia, and receipt of at least one dose of any of the following antibiotic agents: cefepime, ceftazidime, aztreonam, meropenem, piperacillin/tazobactam, vancomycin or linezolid. Exclusion criteria included diagnosis of hospital/ventilator-acquired pneumonia, immunocompromised states, and other concomitant infectious diagnoses. Determination of appropriate use of broad-spectrum antibiotics was based on the 2019 ATS/IDSA community-acquired pneumonia treatment guidelines.

Results

Data analysis is in progress. Results will be described.

Conclusions

Conclusions to be determined based upon results of data analysis.

Jais, Andrea

Evaluation of Opioid Overdoses and Naloxone Use in Urban Healthcare – An Update for Recent Trends

Jais, Andrea; Gilbert Plock, Meredith; Betchick, Elizabeth; Gandy, Andreece; Coleman, Angie; Scott, Sara
Methodist Le Bonheur Germantown Hospital

Background and Purpose

The need for higher doses of naloxone stems from the alarming increase in laced substances. Since the potency of laced substances are unknown, a higher initial dose of naloxone would be preferred for rapid clinical reversal. Current research has not yet established an effective higher initial dosing scheme but has shown that higher cumulative doses have reduced the development of opioid associated complications. This study's main objective is to characterize naloxone use and identify the potential need for a higher initial dose of naloxone in opioid overdoses in the emergency department.

Methods

A multicentered, retrospective chart review was conducted for all adults presenting to the emergency department with an opioid overdose or naloxone use diagnosis within the adult facilities of the Methodist Le Bonheur Healthcare system from August 2018 to August 2024. Patients less than 18 years of age, cancer patients, and patients in hospice or palliative care were excluded. The following data was collected: age, sex, race, height, weight, drug screen/intoxicants, alcohol level, naloxone (number of administrations, cumulative and initial dose) prior to and during ED admission, average dose, routes of administration, requirement of naloxone infusion, intubation rate, and ICU admission rate, incidence of noncardiogenic pulmonary edema, and incidence of recurrent respiratory depression.

Results

Results will be described

Conclusions

Conclusion will be described

Kaleo, Parker

Evaluating UTI Management Using a Proposed Continuum of Diagnosis in an Academic Medical Center

Kaleo, Parker[1]; Marjoncu, Dennis[1]; Schotting, Paul[1]; Cummings, Carolyn[1]; Cleveland, Kerry[1,2]; DeKerlegand, Alaina[1]
[1]Methodist University Hospital, Memphis, TN
[2]University of Tennessee Health Science Center, Memphis, TN

Background and Purpose

There remains controversy when managing urinary tract infections (UTIs) for patients without urinary symptoms but have nonspecific clinical symptoms such as hypotension, nausea, vomiting, incontinence or retention, among others. In a position statement by Advani et al, they proposed a new diagnostic category termed bacteriuria of unclear significance (BUS) to acknowledge this gap and shine light on treatment decisions in these patients. We will evaluate this classification in our academic medical center by retrospectively diagnosing patients treated with a UTI as having asymptomatic bacteriuria (ASB), BUS, or a UTI.

Methods

This is a retrospective study of patients diagnosed with a UTI from July 1, 2023, to July 31, 2024. The primary objective was to categorize patients into three groups: ASB, BUS, or UTI. Inclusion criteria were adults (≥18 years old) diagnosed with a UTI, infected urinalysis, positive urine culture, and antibiotic treatment for over 24 hours. We excluded patients with concomitant infections and other criteria.

Results

The primary outcome was comparing the mean duration of antibiotic use among the groups. Secondary outcomes included de-escalation rates to oral antibiotics, the duration until de-escalation, and length of stay. We analyzed 139 patients, predominantly black females with a mean age of 70. Only 23 (17%) had urinary symptoms, and 64 (46%) were diagnosed with BUS.

The mean antibiotic duration was 7 days for ASB, 8 days for BUS, and 11 days for UTIs ($p<0.001$). The mean duration until de-escalation was 3 days for ASB and BUS, and 4 days for UTI ($p=0.031$). De-escalation rates were 44%, 61%, and 82% ($p=0.057$), respectively. Length of stay averaged 8 days for ASB, 9 days for BUS, and 8 days for UTI ($p=0.69$).

Conclusion

Our findings indicate that patients diagnosed with BUS are being treated significantly differently than those with ASB. Although education and stewardship policies are needed to prevent unnecessary treatment, our results highlight those patients with BUS, while classified as ASB in current guidelines, are not being managed consistently with ASB treatment recommendations.

Kendrick, Hayley

Incidence of and Factors Associated with Aspirin Resistance in Patients with Congenital Heart Disease

Kendrick, Hayley[1,2]; Lehman, Monica[1,2]; Taylor, John[1,2]; Coley, Camryn[1]; Rayburn, Mark[1,2]; Chakraborty, Abhishek[1,2];
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Background and Purpose

Aspirin (acetylsalicylic acid) provides antiplatelet activity by irreversibly binding to cyclo-oxygenase 1 (COX-1) to prevent the conversion of arachidonic acid to thromboxane A2. Aspirin is frequently used in patients with congenital heart disease to prevent thrombosis. Patients with single ventricle physiology who are dependent upon patent systemic-to-pulmonary artery (S-PA) shunts rely upon aspirin to prevent shunt thrombosis, a potentially fatal complication. Aspirin dosing for S-PA shunt prophylaxis can range from 1 – 10 mg/kg/dose. The VerifyNow® Aspirin assay can be used as a qualitative test to assess the presence of platelet inhibition secondary to aspirin. The VerifyNow® User Manual states an ARU (aspirin reaction units) of 550 ARU or greater is not consistent with aspirin-induced platelet inhibition and furthermore, may indicate biochemical aspirin resistance. Some have recommended utilizing a lower ARU threshold of 500 ARU to define aspirin responsiveness/resistance. The purpose of this study is to assess the prevalence of aspirin resistance and the risk factors that may be associated with said resistance.

Methods

A retrospective review of electronic health records was conducted at a pediatric hospital to assess aspirin resistance as determined by ARU values obtained from patients with congenital heart disease. Institutional Review Board approval was obtained. Patients 0 – 21 years of age with congenital heart disease were included if the patient palliated with a stent and/or S-PA shunt and received aspirin thromboprophylaxis between January 1, 2017, to May 31, 2024. Excluded patients were patients that did not have ARU testing. Patient demographics, cardiac diagnosis, type of S-PA shunt and surgery, aspirin regimen, concurrent administration of proton pump inhibitors, famotidine, and thromboprophylatic agents, cardiac-related events, thrombosis events, platelet count, ARU levels, and hemoglobin levels near testing were collected.

Results

Results will be described at MidSouth Pharmacy Residents Conference.

Conclusion

Conclusion will be described at MidSouth Pharmacy Residents Conference.

Kingston, Sydney

Assessment of False-Positive Results for Fentanyl on Urine Drug Screens in Veterans

Rainey, Carly; Goggans, Margaret
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Background and Purpose

False-positive results for fentanyl on urine drug screens (UDS) can have significant impacts on treatment decisions, unnecessary healthcare costs, and patients' quality of life. There are case reports/studies implicating risperidone, ziprasidone, labetalol, loperamide, and high-concentration methamphetamine in false-positive results for fentanyl on UDS. One study of the SEFRIA fentanyl immunoassay found a 38% false-positive rate, with trazodone, labetalol, and haloperidol accounting for 56%. Limited documentation of causes for false-positive results for the current fentanyl testing assay suggests the need for additional research. This study aims to add to data on false-positive results for fentanyl on UDS.

Methods

This was a retrospective analysis of electronic medical records from VA facilities located in Tennessee within VISN 9 from August 1, 2023 to August 1, 2024 with a positive UDS for fentanyl. The primary outcome was the rate of false-positive results for fentanyl on confirmation testing. Secondary outcomes included rate of confirmation send-off, co-prescribed medications in those found to be false-positive, and rate of follow-up on confirmation results.

Results

A total of 1228 UDS samples were included. Of these, 578 (47.1%) were sent for confirmation [Memphis n=87 (14.1%); Tennessee Valley (TVHS) n=277 (89.9%); Mountain Home n=214 (70.9%)]. Of those sent for confirmation, 546 had confirmation results. The overall rate of false-positive results for fentanyl on confirmation was 34.1% (70.2% in Memphis; 43.5% in TVHS; 4.7% in Mountain Home). Providers followed up on 74.4% of confirmation results. The most common medication in those found to be false-positive was trazodone [n=153 (82.3%)]; for those not on trazodone, the most common medication was naloxone [n=27 (81.8%)]. Data analysis is ongoing.

Conclusions

Conclusions are preliminary pending completion of data analysis. There was a high rate of false-positives for fentanyl in Memphis and TVHS; the rate was low in Mountain Home likely due to using a higher cutoff level for the fentanyl assay. The most commonly prescribed medication in those found to be false-positive was trazodone, adding to data implicating trazodone in fentanyl UDS false-positives. These results suggest automatic confirmation testing should be considered to identify false-positives, and facilities should consider increasing the fentanyl assay cutoff level to reduce their likelihood.

Kirkman, Kassidy

Safety and Efficacy of Tenecteplase in Elderly Populations with Acute Ischemic Stroke

Kirkman, Kassidy; Harlan, Sarah; Ruckel, Cassidy
Baptist Memorial Hospital – Memphis, TN

Background and Purpose

Acute Ischemic Stroke (AIS) is a prevalent neurologic emergency associated with high morbidity and mortality. Timely intravenous thrombolytic administration in qualifying patients is vital to restoring cerebral blood flow and preventing permanent neurologic damage. Tenecteplase is a recombinant fibrinolytic with high affinity for fibrin and a favorable pharmacokinetic profile. Elderly patients have increased risk for AIS and associated complications. Previous evaluations of alteplase demonstrated similar incidence of symptomatic intracranial hemorrhage (ICH) but increased favorable outcomes in patients < 80 years compared to ≥ 80 years. The aim of this study was to assess the safety and efficacy of tenecteplase for AIS in patients ≥ 80 years.

Methods

This was a retrospective single-center study of adult patients admitted for AIS who received tenecteplase. The primary efficacy outcome was change in modified rankin score (mRS) at 90 days. The primary safety outcome was incidence of symptomatic hemorrhagic conversion. Secondary outcomes include good functional outcomes (mRS score 0-2), reduction in NIHSS from baseline to discharge, asymptomatic and radiographic hemorrhagic conversion, incidence of angioedema, inpatient mortality, and major bleeding events.

Results

A total of 182 patients were included. A majority (n=144) were < 80 years of age. The change in mRS at 90 days is currently being analyzed and will be presented. There was no difference in incidence of symptomatic hemorrhagic conversion (3.5% < 80 years vs 5.3% ≥ 80 years; p=0.61). Radiographic hemorrhagic conversion occurred more frequently in elderly patients (3.5% vs 13.2%, p=0.02). There were no reported incidences of angioedema noted. Significantly more inpatient mortality was observed in patients age ≥ 80 years (0.69% vs 5.3%, p=0.049). No difference in major bleeding events was observed (10.4% vs 21.1%, p=0.079).

Conclusions

Full data analysis is ongoing and will be presented in final form. The safety analysis findings suggest similar incidence of symptomatic hemorrhagic conversion and major bleeding events in elderly patients compared to patients < 80 years. However, increased inpatient mortality and radiographic hemorrhagic conversion was observed. Further studies are needed to fully elucidate the safety and efficacy of Tenecteplase in elderly populations.

Klecha, Noah

Implementation of Intravenous Phenobarbital Push Dosing in Patients with Moderate to Severe Alcohol Withdrawal at a Community Hospital

Klecha, Noah; Green, Matthew; Borhani, Neda; Hicks, Marnie; Walley, Jeremy
Cookeville Regional Medical Center

Background and purpose

Alcohol use disorder (AUD) is the most common form of substance use disorder in the United States affecting 28.9 million people. Patients experiencing AUD have downregulated gamma butyric acid (GABA) receptors, resulting in benzodiazepine resistance which can lead to treatment complications with current standards of care. Based on the 2020 American Society of Addiction Medicine (ASAM) benzodiazepines are currently first-line treatment for alcohol withdrawal. Phenobarbital monotherapy is an appropriate option for patients with risk of developing severe or complicated alcohol withdrawal or those with intolerance to benzodiazepines. The purpose of this study is the implementation of a phenobarbital push dosing regimen for this patient population at a community hospital.

Methods

Currently the facility standard treatment for AUD involves an approach utilizing both scheduled and as-needed (PRN) lorazepam with either oral or intravenous routes based on severity as defined by the Clinical Institute Withdrawal Assessment for Alcohol-Revised (CIWA-AR). The primary objective of this study is to evaluate changes in hospital length of stay with phenobarbital IV push administration compared to traditional benzodiazepine strategies in AUD patients experiencing moderate-severe withdrawal. Secondary objectives included ICU admissions related to alcohol withdrawal, intubation during course of treatment, and treatment doses received in each group. This process will be a two-phase implementation with phase one implemented in the emergency department and phase 2 implemented throughout the remainder of the facility. Inclusion criteria for this study include patients greater than 18 years of age who are experiencing moderate-severe alcohol withdrawal as defined by CIWA-AR. Exclusion criteria for this study include patients at risk of acute respiratory distress, severe liver dysfunction, patients less than 18 years old, pregnancy, and those with previous hypersensitivity/adverse effect to phenobarbital.

Results

Will be described

Conclusion

Will be described

Lacek, Kaylen

Assessing Heparin Administration in the Hospital: A Comparative Review of One-Time Dosing Versus As-Directed Dosing Protocols.

Kaylen Lacek[1], Matthew Percy[2]
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Background and Purpose

Heparin is recognized as a high-alert medication by both the Institute for Safe Medicine Practices and the Joint Commission. Avoidance of errors in heparin administration and documentation is vital to patient safety outcomes in the hospital system. This medication use evaluation assessed whether a new one-time dose order would improve timing for initiation of heparin drips versus previous "as directed" orders.

Methods

This is a retrospective observational medication use evaluation from May 1, 2024 to December 1, 2024. The clinical pharmacy workflow software was used to track past EMAR administrations of intravenous heparin to patients in the database of a 159-bed facility within a large healthcare organization. Large volume infusion pump information was also collected and matched to its respective patients for initiation of heparin and titration monitoring. The combined primary outcome was average time to heparin drip and bolus initiation. Secondary outcomes included: appropriate selection of protocol based on indication, nursing documentation of drip titrations, appropriate titrations, time to first therapeutic aPTT, percentage of aPTTs drawn correctly, and percent of aPTTs within therapeutic range.

Results

Results for the combined primary outcome of average time to heparin drip and bolus initiation are as follows: time to bolus for the before group (250 minutes) vs after group (218 minutes), time to drip for the before group (237.5 minutes) versus after group (92 minutes). The after group had preferable results for all secondary outcomes as well.

Conclusion

Once, or "due now" orders for heparin drips lead to better outcomes with patients needing anticoagulation in the hospital. These orders are preferable for workflow over "as directed" heparin drip orders.

Lee, Justin

Efficiency vs. Accuracy: A Time Study of Pharmacy Technicians in Hospital Settings

Lee, Justin; Hopkins, Jamie, and Beard, Beth
Jackson-Madison County General Hospital, Jackson, Tennessee

Background and Purpose

In hospital settings, pharmacy technicians play a critical role in ensuring the safe and efficient preparation and distribution of medications. However, as staffing shortages have increased as well as the roles and responsibilities of technicians, the pressure to complete tasks quickly can sometimes lead to errors, which may impact patient safety. Understanding the time it takes to safely deliver medications will help quantify the potential staffing adjustments needed to consistently achieve ideal performance standards. Ultimately, this evaluation aims to determine if more full-time equivalents (FTEs) are required to maintain optimal accuracy, thereby supporting workforce planning and potentially improving patient care outcomes.

Methods

Over the course of one month, five pharmacy technicians at Jackson-Madison County General Hospital (JMCGH) were observed while reloading medications into Pyxis machines in different areas of the facility. Following the loading process, the researcher conducted audits on the Pyxis machines to identify errors. Data collected included the number of medications to be loaded per machine, time spent at the machine, number of interruptions, medications with incorrect counts or beyond-use dates (BUD), and medications placed in the wrong location. This study was approved by the JMCGH Institutional Review Board.

Results

A total of 42 Pyxis machines were observed being loaded by pharmacy technicians, and 17 of those machines were subsequently audited for errors by the researchers. The most common error, occurring in 52% of audited medications, was the entry of an incorrect beyond-use date (BUD). Medications with incorrect counts were identified in 8.5% of audited medications. During the loading process, technicians were interrupted 10 times over the course of the month, with an average interruption lasting 1 minute and 24 seconds. Data analysis across different areas of the hospital (ICU, Floor, and ED) did not reveal any significant trends in errors.

Conclusions

Achieving 100% accuracy while loading Pyxis machines is challenging for pharmacy technicians, particularly given the strong emphasis placed on efficiency. To meet this standard, a substantial increase in scheduled technician staffing would be required.

Lesley, David

Clopidogrel loading plus fibrinolytics for the treatment of ST-segment elevation myocardial infarction

Lesley, David; Wilson, Dylan, and Hicks, Jeremy
Jackson-Madison County General Hospital, Jackson Tennessee

Background and Purpose

For the treatment of ST-segment elevation myocardial infarction (STEMI), fibrinolytics play a greater role in rural healthcare settings where PCI facilities are unavailable or transport time is >120 minutes. The 2025 AHA/ACC guidelines for management of acute coronary syndromes note that a loading dose of clopidogrel 300 mg should be administered to patients < 75 years of age who receive fibrinolytic therapy. The purpose of this study was to assess the safety and efficacy of clopidogrel loading compared to no clopidogrel for the management of STEMI in patients receiving fibrinolytics.

Methods

This was a retrospective, cohort study conducted between 2021 and 2024. Patients were included if they presented to our facility with STEMI, regardless of initial treatment. The primary endpoint of this study was successful restoration of coronary perfusion for patients who received fibrinolytic agents and were loaded with clopidogrel compared to those who were not loaded with clopidogrel. Secondary endpoints included rates of bleeding, mortality, and an analysis of all STEMI patients, comparing outcomes of those that received fibrinolytics and those that did not.

Results

A total of 1103 STEMI patients were treated from 2021 – 2024, 343 of which (31.1%) were treated with fibrinolytic agents. Of the 343 patients who received fibrinolytics, 290 were evaluable for success of fibrinolytic therapy. Patients that received clopidogrel at the time of their fibrinolytics had successful restoration of coronary perfusion 53.6% of the time compared to 41.8% for those that did not receive clopidogrel (p=0.115). Patients that received clopidogrel had similar observed bleeding rates compared to those that did not (8.8% vs. 9.4%; p=0.876) and similar mortality rates (4.0% vs. 9.0%; p=0.093). In the total STEMI population, patients who were treated with fibrinolytics experienced a bleeding event rate of 8.4% vs 9.9% of patients who were not treated with fibrinolytics (p = 0.448) but lower mortality rates (5.0% vs. 8.7%; p=0.029).

Conclusions

Fibrinolytics and clopidogrel loading were not found to put patients at an increased risk of morality or bleeding. Fibrinolytics were deemed successful 51.4% of the time, with a clinically important improvement of 11.8% if they received clopidogrel.

Lewis, Lydia

Hydrocortisone versus Hydrocortisone and Fludrocortisone in Septic Shock

Lewis, Lydia; Bright, Bradley; Childress, McKenna
TriStar Skyline Medical Center

Background and Purpose

Sepsis is a worldwide cause of mortality and critical illness. If it progresses, sepsis can develop into septic shock. Septic shock is defined as hypotension requiring vasopressor therapy, despite adequate fluid resuscitation, and lactate levels > 2 mmol/L. In the 2021 Surviving Sepsis Guidelines, intravenous hydrocortisone is recommended in patients with ongoing vasopressor requirements. However, in recent studies, superior efficacy was seen with combination therapy of hydrocortisone and fludrocortisone. Thus, this study aimed to compare the effectiveness of hydrocortisone versus hydrocortisone and fludrocortisone in reduction in mortality in septic shock patients.

Methods

In this single-center retrospective cohort study, the electronic medical record and clinical surveillance platform were used to identify septic shock patients that received hydrocortisone versus hydrocortisone and fludrocortisone, in the intensive care unit (ICU) from December 2023-2024. Septic shock was defined using standard definition. Patients <18 years old, who received hydrocortisone ≥ day 4 of hospitalization, or used fludrocortisone for an alternative indication were excluded. The primary outcome evaluated reduction in mortality. Secondary outcomes included vasopressor requirements, ventilator days, and ICU length of stay. All data was recorded without patient identifiers to maintain confidentiality.

Results

Analyses included 76 patients, 23 received dual therapy and 53 received hydrocortisone alone. Demographics between groups were well balanced. The primary outcome of reduction of mortality was not observed (75.61% with hydrocortisone versus 24.39% with dual therapy). Additionally, there was no observed reduction of days on vasopressors, days on ventilator, or ICU length of stay (p=0.2196, 0.8506, and 0.0651). In both cohorts, mean doses of hydrocortisone were comparable (57.69 hydrocortisone alone versus 66.67 dual therapy). Lastly, in the dual therapy group, a smaller percentage of patients required escalation to 4 vasopressors (4.35% vs. 30.19%).

Conclusions

In this retrospective cohort study in adults with septic shock, there was no difference in mortality noted with combination hydrocortisone and fludrocortisone compared to hydrocortisone. Additionally, there was no difference in days on vasopressors, days on ventilator, and ICU length of stay. From these results, there was no observed benefit with dual therapy. However, additional studies with larger sample sizes are recommended.

Livingston, Jordan

Disparities in pain control after isolated long-bone fractures in a single level-1 trauma center

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Background and Purpose

A 2002 report from the Institute of Medicine provided a detailed examination of racial and ethnic disparities present in healthcare. Since that time, researchers have attempted to further elucidate disparities related to pain management. Studies have found that White patients are significantly more likely to receive analgesics in the Emergency Department (ED) compared to Black patients. Additionally, Black patients are significantly less likely to receive analgesics in the ED for pain control after long-bone fractures or traumatic pain. While race and ethnicity are known disparities in healthcare, other disparities such as age, sex, and history or active substance use disorder (SUD) are less discussed. Knees and colleagues found a significant difference in pain control when stratified to age or presence of SUD. Patients with active SUD and those older than 65 were less likely to have adequate pain control. Pain and perceived control of pain are subjective experiences which can be difficult to treat and study. A change of 1.39 ± 1.05 on the numeric rating scale (NRS-11) is a clinically significant change when measuring pain, as found by authors Kendrick and Strout. The aim of this study was to retroactively assess disparities in pain control after acute isolated long-bone fractures at a single Level-1 trauma center.

Methods

This single center, retrospective, cohort study assessed patients who presented to the Regional One Health Trauma ED between May 1, 2019 and July 31, 2024 who sustained an acute isolated long-bone fracture within 24 hours of presentation. Long bone fractures were defined as femur, tibia, fibula, ulnar, and humerus fractures and were extracted from the electronic health record utilizing discharge ICD-10 codes. Patients were assigned to groups based on self-reported race, as documented in the electronic health record. Optimal pain control, defined as a reduction in numeric pain scale score of 1.5 or more points, were compared between Black, White, and Hispanic patients. Subgroup analyses comparing optimal pain control were also analyzed in patients greater than 65 years old, assigned female sex at birth, and with known history of SUD.

Results/Conclusion

Results will be described.

Lockridge, Raquel

Evaluating the effect of probiotic use with antibiotics on the incidence of Clostridium difficile

Miller, Blair, Hinson, Elizabeth, Hasford, Erika, Allen, Jennifer
Maury Regional Medical Center – Columbia, Tennessee

Purpose

Clostridium difficile is a gram-positive bacterium that causes antibiotic-associated infectious diarrhea and colitis. It is a common healthcare-associated infection, with factors such as age, antibiotic class, duration of antibiotic use, and patient-specific conditions influencing its incidence. Probiotics have been suggested to reduce CDI (Clostridium difficile infection) rates, though recent guidelines do not recommend their routine use. This study evaluates the effectiveness of probiotics in reducing CDI rates in hospitalized patients.

Methods

This retrospective chart review includes patients >18 years old admitted to a community hospital who received at least one dose of antibiotics during their stay and a probiotic within 48 hours of admission, developing CDI after 72 hours. Patients will be identified through the hospital's electronic medical records. Exclusion criteria include patients under 18, those with CDI on admission, those diagnosed with CDI within 72, and hospice patients. The primary outcome is the reduction of CDI rates when probiotics are given with antibiotics. The secondary outcome is identifying other risk factors associated with an increased CDI risk.

Results

Based on preliminary results, in 2018, 6369 patients received antibiotics, 896 received probiotics, and 548 (7.5%) received both, resulting in 32 CDI cases. In 2019, 8092 patients received antibiotics, 1056 received probiotics, and 898 (9.8%) received both, with 7 CDI cases. In 2020, 7481 patients received antibiotics, 1056 received probiotics, and 785 (9.2%) received both, leading to 5 CDI cases. In 2021, 7283 patients received antibiotics, 1228 received probiotics, and 990 (11.6%) received both, resulting in 4 CDI cases. Similarly, in 2022, 7340 patients received antibiotics, 927 received probiotics, and 758 (11.6%) received both, with 4 CDI cases. In 2023, 7584 patients received antibiotics, 1447 received probiotics, and 1274 (15.4%) received both, leading to 17 CDI cases. In 2024, 7151 patients received antibiotics, 1448 (14.8%) received probiotics, and 1273 received both, resulting in 6 CDI cases.

Conclusion

Preliminary results suggest no direct correlation between probiotics and reduced CDI rates. However, risk factors such as hospital floor, albumin levels, and nasogastric tube use have been linked to higher CDI incidence.

Lolonis, James

Evaluating Heparin Drips in Inpatient Care: Efficacy, Safety, and Anticoagulation Management

Lolonis, James[1]; Hamilton, Megan[1]; Weitzel, Sam[2]
1. HCA Healthcare, Nashville, TN
2. TriStar StoneCrest Medical Center, Nashville, TN

Background and Purpose

Continuous heparin drips are used for thromboembolic disorders, enabling quick dosing but posing challenges in monitoring and maintaining therapeutic ranges. These issues lead to supratherapeutic and subtherapeutic levels, increasing thromboembolic and bleeding risks. This study evaluates the efficacy and safety of heparin drips, focusing on the percentage of time patients remain therapeutic during treatment.

Methods

This is a single-center, observational, retrospective analysis designed to investigate the use of heparin drips in the inpatient setting. A comprehensive review of all electronic medical records for all patients receiving anticoagulation therapy with heparin drips was conducted over a six-month period, from January 1, 2024 to June 30, 2024. The primary outcome of this study is the percent of time patients remain within the therapeutic range of anticoagulation. Secondary outcomes include the occurrence of subtherapeutic and supratherapeutic aPTT levels, and incidence of thromboembolic or bleeding events occurring during this time period.

Results

During the analysis period, 236 patients received heparin drips, with 142 initiated for a cardiac indication and 94 for DVT/PE indication. Among the cardiac group, patients were therapeutic 41% of the time. For the DVT/PE group, patients were therapeutic 43% of the time. Overall results showed that patients were therapeutic approximately 38% of the time, subtherapeutic 45%, and supratherapeutic 24%. Notably, 9 patients 3.8% maintained therapeutic levels for 100% of their therapy. There were no bleeds or thromboembolic events noted due to time outside therapeutic range.

Conclusion

This study highlights the variability in heparin therapy adherence, with 38% of patients achieving therapeutic levels. Despite a significant number being sub- or supratherapeutic, no thromboembolic or bleeding complications were noted. The 3.8% of patients maintaining therapeutic levels throughout treatment emphasize the need for better heparin optimization. Future efforts should assess patients for alternative coagulation options while refining heparin protocols for those who don’t qualify, ensuring better adherence to therapeutic ranges and minimizing time outside optimal levels.

Long, Kelsey

Abstract Title: Clinical practice of oral antibiotic step-down therapy for ESBL bloodstream infections with a non-urinary source in a hospital setting

Long, Kelsey; Cleveland, Kerry; Reichert, Michael; Jacobs, Anna; DeKerlegand, Alaina; Sakaan, Sami
Methodist University Hospital – Memphis, TN

Background and Purpose

ESBL-producing Enterobacterales (ESBL-E) are increasingly prevalent and linked to worse outcomes, longer hospital stays, and higher costs. The transition from parenteral to oral antibiotics for ESBL bacteremia varies widely, with limited data on oral step-down therapy for non-urinary sources. Current clinical guidance for bacteremia caused by ESBL-producing organisms substantially relies on extrapolation of clinical data from studies that investigate parenteral to oral transitions from a urinary source. The objective of this study is to determine the current clinical practice of switching patients with ESBL-producing bloodstream infections from a carbapenem to oral step-down therapy with a non-urinary source.

Methods

This study is a retrospective chart review of adult patients admitted in the Methodist Le Bonheur Healthcare system with ESBL-positive blood cultures between January 1, 2019 through September 30, 2024. Inclusion criteria for this study includes age 18 years or older, blood culture positive for an ESBL organism, and at least 48 hours of ESBL-covering inpatient antibiotics. Exclusion criteria includes urine as the primary source of infection and resistance or allergy to trimethoprim-sulfamethoxazole and levofloxacin. The primary outcome for this study is determining the total number of patients with ESBL bacteremia switched from a carbapenem to oral therapy. Pertinent secondary outcomes include hospital length of stay and total duration of therapy.

Results

262 patients were reviewed and 126 were included in the study. Preliminary results show that on average patients were 69 years of age and male. Most patients were septic, had an average inpatient antibiotic duration of 10 days, and hospital length of stay of 15 days. Overall, roughly 21% of patients were switched from parenteral to oral step-down therapy for their ESBL bacteremia with the occurrence of most switches occurring in the anticipation for discharge in the outpatient setting.

Conclusion

Switching from carbapenems to oral therapy for ESBL bacteremia was not consistently practiced inpatient. Further analysis will be conducted to assess outcomes in patients switched to oral therapy. The results of this study will provide supporting literature regarding when to potentially transition to oral therapy during hospitalization. Future research studies are warranted to further investigate the clinical outcomes resulting from transition timing.

Lynch, Cody

Cefdinir vs Levofloxacin as oral step-down for gram negative bacteremia

Lynch, Cody - Author; Gibbs, Andrew - Co-Author; Hamilton, Eric - Co-Author
Baptist Health Medical Center North Little Rock, Arkansas

Background and Purpose

The purpose of this study is to determine if there is a difference between cefdinir and levofloxacin as oral step-down in terms of 30-day readmittance with the same infection following gram negative bacteremia (GNB). A study by Tamma, P. D., et al (2019) found that there was no significant difference using a full course of IV antibiotics versus starting with intravenous (IV) antibiotics and stepping-down to oral antibiotics. Based on this, is there a difference between which antibiotic to step-down to? At Baptist Health Medical Center - NLR there are a significant number of cefdinir prescriptions being prescribed for GNB despite its pharmacokinetic profile being unfavorable for that indication. Levofloxacin and other fluoroquinolones have significantly better coverage and pharmacokinetic profile which would theoretically make them superior to cefdinir for treatment of bacteremia.

Methods

This was a multi-center retrospective study that involved 11 hospitals. Patients were originally included if they ever had a positive blood culture with *E. Coli*, *K. Pneumoniae*, or *P. mirabilis* from 1/1/21 to 8/31/24. All outpatient prescriptions of cefdinir and levofloxacin were collected. The blood cultures and outpatient prescriptions were then cross-referenced to each other to find our initial patient population. Patients were excluded if the blood culture was not sensitive to the prescribed antibiotic, there was no defined source of infection, if they were administered another active antibiotic, if they were pregnant, < 18 years old, or a prisoner, and if they received over 5 days of IV antibiotics. Patient data was collected via chart review. Data was analyzed through JASP™ version 0.19.3.0.

Results

The result of the primary outcome, readmittance with the same infection, was insignificant as both study arms had none, 0 vs 0 p=1. None of the secondary endpoints were significantly different as well.

Conclusion

Based on the results gathered in this study, there appears to be no benefit in prescribing levofloxacin over cefdinir for some cases of GNB. Despite this study being retrospective, it does encourage further research down the line. Examples include determining the optimal length of antibiotic therapy for GNB or if fluoroquinolones are more efficacious for infections other than GNB.

Maddage, Julie

Outcomes of 5+1 Induction Strategy in Newly Diagnosed Acute Myeloid Leukemia

Maddage, Julie[1]; Hinkle, Seth[1]; Zakhari, Matthew[1] & Abbas, Jonathan[1,2]
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[2]Tennessee Oncology - Nashville, TN

Background and Purpose

Acute myeloid leukemia (AML) treatment is generally classified into two categories: intensive induction chemotherapy and non-intensive chemotherapy. The most commonly utilized and NCCN Guidelines® preferred intensive induction strategy is "7+3".[1] This long-standing regimen has a reported complete remission rate of about 65%.[2] Saini et al describe an alternative induction regimen notated as "5+1" (high-dose cytarabine on days 1 through 5 and high-dose mitoxantrone on day 2).[3] This study reported an overall complete remission (CR) rate and complete remission rate with incomplete hematologic recovery (CRi) of 76.2% (77/101).[3] Though this study showed significant results, there have yet to be further studies that confirm the outcomes of "5+1" induction chemotherapy in patients with AML. The utilization of "5+1" induction has grown over the past few years at our institution, thus the purpose of this study is to evaluate outcomes of this population at our site.

Methods

This study is a single-center retrospective cohort study of patients with AML initiated on induction therapy with the "5+1" regimen and meet inclusion criteria between the dates of November 1st, 2020 and July 31st, 2024.

Results

Of the total population assessed, 64 patients met inclusion criteria. For the primary endpoints, the overall complete remission rate (including both CR and CRi) was 80.6%. The 4 week, 8 week, and 90-day mortality rates in this study were 6%, 10.4%, and 11.9% respectively. Outcomes of selected secondary endpoints include, refractory disease observed in 22.4% of the population and a relapse rate of 31.3%. The ability to proceed to a stem cell transplant was observed in 38.8% of patients.

Conclusions

Overall, the "5+1" induction regimen in AML patients at our facility yields high remission rates, allows for the opportunity to proceed to transplant, and has been documented as well tolerated. The next steps in this research are to further interpret and perform statistical analysis on the collected data and construct conclusions in regard to the utilization of this regimen in specific populations as compared to the standard, guideline-preferred regimen.

Madrigal, Alexander

Risk Factors for the Development of Acute Kidney Injury in Veterans on Parenteral Nutrition

Madrigal, Alexander and Ross, Robert
G.V. (Sonny) Montgomery VA Medical Center, Jackson, Mississippi

Background/Purpose

Parenteral nutrition (PN) is essential for the nourishment of patients unable to receive nutrition through conventional means, however PN is not without risks such as acute kidney injury (AKI). The American Society for Parenteral and Enteral Nutrition does not have a formal definition for AKI in the setting of PN, with limited reports of AKI in patients receiving PN. We aimed to assess risk factors contributing to AKI development in Veterans receiving PN over a 5-year period.

Methods

This case-control study included Veterans receiving PN for at least 48 hours between 1 January 2020 through 31 December 2024. Veterans were excluded for unresolved AKI at initiation of PN, kidney transplant history, or dialysis treatment while receiving PN. Veterans who developed AKI while receiving PN were compared to the PN control group to assess the odds of AKI based on risk factors including comorbidities, race, PN duration, and macronutrient goal dosing. Odds ratio (OR) determined the association of specified risk factors and were reported with a 95% confidence interval.

Results

Forty-nine administrations of PN were included, with AKI developing in 6 cases (12.24%). AKI was higher in Veterans with a carbohydrate goal of at least 3.5 g/kg [OR: 2.24 (0.24-21.15], had chronic kidney disease (CKD) [OR: 3.70 (0.53- 25.68)], or required intensive care [OR 3.20 (0.56-18.43)]. AKI was lower in Caucasians [OR: 0.83 (0.15 to 4.58), Veterans with obesity [OR: 0.5 (0.09-2.80)], Veterans with a protein goal of at least 1.2 g/kg [OR: 0.34 (0.06 to 2.07)], or Veterans receiving PN for 5 days or longer [OR: 0.68 (0.12 to 3.78)].

Conclusions

Both patient specific PN factors contributed to Veterans developing AKI while receiving concurrent PN. Though not statistically significant, this study highlights trends warranting further research, such as having increased odds of developing AKI in Veterans with CKD or higher carbohydrate requirements, and lower odds in those with a higher protein requirement. Further investigation may support these findings and help guide decision making to avoid AKI Veterans receiving PN.

Manion, Seth

Comparing the rate of rebleeding in patients with a gastrointestinal bleed treated with either intermittent or continuous intravenous pantoprazole therapy

Manion, Seth, McCormack; Tim, Smith, Priscilla; Garrett, Meghan, and Holder, Genna
Ascension Saint Thomas Rutherford, Murfreesboro TN

Background and Purpose

Guidelines recommend the use of high-dose proton-pump inhibitors (PPI) given continuously or intermittently for gastrointestinal (GI) bleeds. Previous meta-analyses have shown no difference in efficacy between these regimens. Current literature does not define the most optimal dosing strategy for PPI therapy in GI bleeds. The purpose of this study was to compare the rate of clinically-relevant rebleeding between patients receiving either continuous or intermittent PPI therapy.

Methods

This was a single-center, retrospective chart review of patients diagnosed with a GI bleed who received either continuous or intermittent high-dose pantoprazole between the dates of January 1st, 2023 and December 31st, 2023. The primary outcome of this project was the rate of rebleeding within 7 days of endoscopic treatment. Rebleeding was defined as receiving ≥1 unit of blood product or requiring any endoscopic and surgical interventions after the initiation of PPI therapy. Secondary outcomes included: differences in length of stay, 30 day rebleeding rates, and in-hospital mortality between the two groups.

Results

The results of this study showed no statistically significant difference between the rates of rebleeding within 7 or 30 days of hemostatic treatment or in-hospital mortality between the two regimens. A total of 545 patients were screened for inclusion to which 60 patients met criteria and were split evenly into two groups of 30. The most common reason for exclusion was not receiving hemostatic therapy during endoscopy. A statistically significant difference was identified regarding the length of stay from the date of hemostatic treatment to discharge. This showed that the intermittent group had a shorter mean duration of stay compared to the continuous group.

Conclusions

This study suggests no difference in the rate of rebleeding between intermittent or continuous high dose (≥80mg a day) pantoprazole regimens after successful hemostatic treatment. In patients who did experience a rebleeding event, all received a unit of blood, and only one required additional endoscopic treatment. Limitations to this study included the variability of hemostatic therapy used during endoscopy and the small sample size of patients in both groups.

Marsh, Allyson

Addressing Pharmacist Pediatric Vaccination Administration Hesitancy in an Outpatient Pharmacy Setting

Marsh, Allyson; Phan, Ha; Brown, Kinley; Ward, Karlee
University of Mississippi School of Pharmacy, Jackson, MS

Background/Purpose:

During the COVID-19 pandemic, parents demonstrated hesitancy in ensuring their children received recommended childhood vaccinations. Despite expansions in pharmacist authority to administer vaccines to children as young as three years of age, many community-based pharmacists expressed similar hesitancy toward administering vaccines to pediatric patients. As a result, many children today are faced with following catch-up vaccination schedules. Addressing provider hesitancy towards pediatric vaccination is essential to maintaining high levels of vaccine coverage and reducing the occurrence of disease outbreaks. This Mississippi-based project intends to utilize grant funds to reduce barriers for pharmacist-driven vaccine administration. The primary objective will be to increase awareness of the rules, regulations, and opportunities surrounding pediatric vaccine administration for outpatient-based pharmacists in Mississippi.

Methodology:

This is an IRB-determined exempt, follow-up study on vaccine hesitancy for outpatient-based pharmacists. Educational sessions were provided to pharmacists at the Mississippi Pharmacists Association's (MPhA) annual Mid-Winter meeting.. These sessions discussed the rules, regulations, and opportunities for pediatric vaccine administration in addition to vaccine schedules, administration techniques, and methods to improve communication with parents/caregivers and pediatric patients. A pre-survey was provided to participants regarding vaccine administration barriers, while a post-session survey was provided to assess respondents' comfort level with providing pediatric vaccinations. The collected data will be analyzed using descriptive statistics. For discrete variables, descriptive statistics will be performed.

Results:

Will be described

Conclusion:

Will be described

Maxfield, Amelia

Evaluation of Inpatient Fidaxomicin Usage on C. difficile Infection Recurrence Compared to Vancomycin

Maxfield, Amelia and Brannon, John
Highpoint Health at Sumner with Ascension St. Thomas - Gallatin, Tennessee

Background and Purpose

Clostridioides difficile associated colitis is one of the most impactful nosocomial infections today. Current ISDA guidelines conditionally recommend fidaxomicin for both initial and recurrent C. difficile infections, however current literature is divided on the clinical benefit of using this agent compared to oral vancomycin. This study will evaluate the impact of fidaxomicin and vancomycin on C. difficile recurrence and hospital readmission.

Methods

This study was a retrospective chart review of inpatients at a single suburban community hospital that received treatment for C. difficile colitis using fidaxomicin or vancomycin between July of 2023 and July of 2024. The primary outcome for this study was the rate of readmission within 90 days of discharge. The secondary outcomes of this study were average length of stay (days), average days between readmissions, all cause readmissions, and days of therapy. Inclusion criteria for this study were patients admitted as an inpatient into our facility within the study time frame that received at least two consecutive days of respective therapy and completed their medication course while inpatient or discharged on the same agent. Patients were excluded from this study if they were prescribed long term prophylactic oral vancomycin treatment, a pulse-tapered vancomycin regimen, or if they were diagnosed with fulminant c. difficile colitis.

Results

Out of the 52 patients that received either agent during the study time frame, only 36 participants met inclusion criteria. C. difficle infection recurrence occurred in 22% of patients in the fidaxomicin group (n=20) and in none of the patients in the vancomycin group (n=16). Rates of all cause readmission were similar between the fidaxomicin and vancomycin group at 35% and 31% respectively. There were no statistically significant differences in the average days of therapy and length of stay between groups.

Conclusions

In this small retrospective study, fidaxomicin did not reduce c. difficile infection recurrence nor did it significantly reduce the average length of stay or days of therapy.

McGregor, Jacob

Value Assessment of Clinic-Based Specialty Pharmacy Services in an Integrated Health System

McGregor, Jacob; Raymer, Kelsey; McIntosh, Regan; Ashmore, Mallory M.; Lindsay, Dylan L.
University of Mississippi Medical Center, Jackson, MS

Background and Purpose

Integrated specialty pharmacy services support patient care by managing high-cost medications, optimizing adherence, and reducing access barriers. While the financial benefits of in-house prescription fulfillment are well-documented, the broader impact on healthcare expenditures and clinical outcomes remains unclear. This study evaluated the impact of integrated specialty pharmacy services at the University of Mississippi Medical Center (UMMC) by assessing patient encounter volume, insurer charges, pharmacist interventions, and provider perceptions before and after enrollment.

Methods

This single-center, retrospective cohort study analyzed de-identified data from UMMC's Electronic Health Record (Epic) for patients enrolled in the specialty pharmacy program from February 1, 2023, to August 31, 2024. Eligible patients had been prescribed a specialty medication for at least 12 months prior to enrollment. The primary outcomes were the change in patient encounter volume and insurer charges. Secondary outcomes included pharmacist interventions and provider perceptions. Statistical analyses included chi-squared tests for categorical data and t-tests for continuous variables, with significance set at $p<0.05$.

Results

A total of 54 patients were analyzed. The average number of healthcare encounters per patient decreased from 24.06 pre-enrollment to 21.71 post-enrollment ($p=0.287$). Mean hospital-based charges decreased by 25.48% ($101,746.84 to $75,824.14; $p=0.250$), while professional-based charges declined by 24.21% ($8,687.31 to $6,584.45; $p=0.182$). Forty targeted pharmacist interventions (TPIs) were documented, primarily in adherence support, financial assistance, and medication optimization. Provider satisfaction surveys (N=7) showed that 85.7% rated specialty pharmacy services as "far above average" in communication, provider support, and overall service quality. No negative feedback was reported.

Conclusions

UMMC's integrated specialty pharmacy services were associated with reductions in healthcare encounters and medical expenditures, though results were not statistically significant. Pharmacists played a key role in medication access and adherence support. Provider feedback emphasized the value of these services in improving clinical workflows and patient care. Further research with larger sample sizes and longer follow-up is warranted to assess the long-term impact.

McMaster, Mackenzie

Viral Infection Rates with Belatacept versus Tacrolimus in Kidney Transplant Recipients

McMaster, Mackenzie – Author; Derringer, Darby – Co-Author; Morgan, Emily – Co-Author; White, Amy – Co-Author
University of Arkansas for Medical Sciences (UAMS) Medical Center, Little Rock, AR

Background and Purpose

Calcineurin inhibitors (CNIs) have historically been a principal part of the immunosuppressive regimen for kidney transplant recipients, but the neurotoxic and nephrotoxic side effects associated with CNIs often necessitate transition to a different agent. Belatacept is a selective T-cell costimulation blocker that has shown improvement in renal function, measured by estimated glomerular filtration rate (eGFR), compared to CNIs. However, there has been contradictory evidence regarding an increased risk of viral infections with belatacept compared to CNIs, including cytomegalovirus (CMV), Epstein-Barr Virus (EBV), and BK virus. This project aims to evaluate if belatacept-based immunosuppression increases the risk of viral infections compared to tacrolimus-based immunosuppression in kidney transplant recipients.

Methods

This study was a single-center retrospective chart review of adult kidney transplant recipients at UAMS Medical Center who were prescribed belatacept or tacrolimus for maintenance immunosuppressive therapy from September 1, 2016, to August 31, 2023. Inclusion criteria were adult patients (≥18 years) who underwent kidney transplantation at UAMS and were treated with belatacept or tacrolimus for at least one year. Exclusion criteria included patients with insufficient data in the electronic medical record (EMR), those who received belatacept every eight weeks, and multiple agent or no induction immunosuppression. The belatacept and tacrolimus groups underwent propensity score matching based on age, follow-up time post-transplant, induction agent and dose, and CMV risk status to achieve a 1:1 match. The primary outcome was a composite of CMV viremia, BK viremia, or EBV viremia within one year after start of treatment. Secondary outcomes included the individual components of the composite outcome, along with the incidence of rejection within one year of treatment initiation and eGFR at baseline, six months, and one year post-treatment.

Results

One hundred forty-eight patients (74 belatacept and 74 tacrolimus) were screened. One matched pair was excluded and 11 more rematched based on exclusion criteria, leaving 146 patients for data analysis. Further results to be described.

Conclusions

Conclusions to be described.

McNulty, Meghan

Evaluating the Impact of the ABCG2 Q141K Polymorphism on Allopurinol Efficacy in Pediatric Oncology Patients at Risk for Hyperuricemia

McNulty, Meghan [1]; Crews, Kristine[1]; Robinson, Katherine[1]; Bragg, Allison[1]' Pappas, Andrew[1]; Inaba, Hiroto[2]; Schuetz, John[1], and Haidar, Cyrine [1]
[1]Department of Pharmacy and Pharmaceutical Sciences, St. Jude Children's Research Hospital,
[2]Department of Oncology, St. Jude Children's Research Hospital

Background

Allopurinol is prescribed for the treatment and prevention of hyperuricemia in pediatric oncology patients receiving chemotherapy. In 2022, the Dutch Pharmacogenetics Working Group (DPWG) published an *ABCG2* genotype-based dosing guideline for allopurinol use in gout. Breast Cancer Resistance Protein (BCRP), encoded by the *ABCG2* gene, is involved in allopurinol and uric acid excretion from the gut. A literature review identified a gap in evidence for *ABCG2*-based allopurinol dosing recommendations in pediatric oncology, leaving it unclear whether pharmacogenomic-based allopurinol dosing recommendations apply to treating and preventing hyperuricemia unrelated to gout.

To determine the association between the *ABCG2 Q141K* polymorphism (rs2231142) and the effect of allopurinol on serum uric acid concentrations in pediatric oncology patients. A secondary objective was to determine whether the *ABCG2 Q141K* polymorphism is associated with higher allopurinol dose requirements in pediatric oncology patients.

Methods

A chart review was conducted for pediatric oncology patients who received allopurinol between May 2011 and September 2024 and had been genotyped for *ABCG2*. Patients were excluded if rasburicase was administered within 72 hours before or 48 hours after allopurinol. This analysis focused on *ABCG2* allele Q141K. Patients with one variant allele were assigned an ABCG2 decreased function phenotype, patients with two variant alleles were assigned an ABCG2 poor function phenotype, and those with no variants were assigned an ABCG2 normal function phenotype. Outcomes were analyzed using linear regression with an additive genetic model.

Results

A total of 927 patients were included in the analysis; 176 patients (19%) had an ABCG2 decreased function phenotype, and 17 patients (2%) had an ABCG2 poor function phenotype. *ABCG2* Q141K was not associated with the change in serum uric acid from baseline to 48 hours after allopurinol initiation ($p = 0.54$). Similarly, there was no significant association between the median weight-normalized allopurinol dose administered and *ABCG2* Q141K ($p = 0.75$).

Conclusions

This study observed no significant differences in serum uric acid changes or median allopurinol doses prescribed for treating or preventing hyperuricemia in pediatric oncology patients and *ABCG2* Q141K during the first 48 hours of treatment.

Meggs, Garrett

Pilot of Pharmacist-Driven Telehealth Clinic for Tobacco Cessation

Meggs, Garrett; Armstrong, Drew; Nathans, Alissa
Regional One Health - Memphis, TN

Background and Purpose

Smoking is the number one preventable cause of death in the United States and leads to $600 billion in direct health care costs and lost productivity per year. In 2022, over 10% of the population actively used cigarettes. Over two-thirds of this population expressed a desire to quit. However, only one-third received medication for cessation with even fewer receiving counseling as well. Patient characteristics including racial/ethnic minority, low income, and lack of insurance are associated with reduced rates of prescribing medications for cessation. This study aims to evaluate the efficacy and practicality of adding a pharmacist-run smoking cessation telehealth service to an existing pharmacotherapy clinic.

Methods

Patients were recruited from a variety of outpatient clinics starting in January 2025. Participants were eligible if they actively used tobacco, expressed a desire to quit within a month, and agreed to telehealth intervention. Participants were excluded if they did not receive primary care at Regional One Health or utilized synthetic nicotine sources such as vaping. The primary outcomes include percentage of patients reporting tobacco cessation and percentage of patients reporting tobacco use reduction at 3 months from enrollment. Secondary outcomes include number of patients prescribed medications for cessation, time per patient visit, and average number of patient visits.

Results

Preliminary results show a total of 42 referrals and 15 patient enrollments. Nine patients are actively enrolled to achieve cessation or reduction in daily tobacco use by week 12. At enrollment, the average patient was a 53 year-old Black female using less than 10 cigarettes per day. The most prescribed cessation therapies were combination nicotine replacement therapy and varenicline with nicotine patches. Average time spent was 20 minutes for enrollment and 10 minutes for subsequent visits.

Conclusions

On interim analysis, over half of enrolled patients were willing to receive aid and amenable to continued follow-up. Combination nicotine replacement therapy and varenicline with nicotine patches were the most utilized medications. Final results will yield approximate cessation rates for each therapy, number of follow-up visits required, and pharmacist time spent which will determine the feasibility of full implementation for this service.

Meng, Melanie

Safety and Cost Savings of Intravenous Push Lacosamide Compared to Intravenous Piggyback at a Community Hospital

Meng, Melanie; McKnight, Kristyn; Bell, Ashley; Hopkins, Brandy
CHI St. Vincent Infirmary, Little Rock, AR

Background/Purpose

The primary objective of this study was to compare the safety, cost savings, and efficiency of intravenous push (IVP) lacosamide to intravenous piggyback (IVPB) in patients at CHI St. Vincent Infirmary (SVI), CHI St. Vincent Morrilton (SVM), and CHI St. Vincent North (SVN).

Methods

This was a multicenter, retrospective chart review. Patient charts were selected between March 11, 2024 and March 11, 2025 based on available intravenous lacosamide data from the hospital's electronic medical record (EMR) reporting software, Discern Analytics 2.0. Patients were included if they were at least 18 years of age and received IVPB lacosamide between March 11, 2024 and September 11, 2024 or IVP lacosamide between September 11, 2024 and March 11, 2025. Patients were excluded if they were pregnant or received lacosamide doses greater than 400 milligrams (mg). The primary endpoint was the incidence of adverse events (AEs) in patients receiving IVP versus IVPB lacosamide. Secondary outcomes included amount of lacosamide wasted, incidence of administration delay greater than 1 hour, and cost savings.

Results

A total of 57 patients and 592 charge captures were identified for chart review. Five charge captures were excluded due to missed doses, resulting in 587 administrations to be included in the final analysis. There were 329 administrations in the IVP group and 258 administrations in the IVPB group. Incidences of bradycardia (2.1% vs 1.9%), hypotension (16.7% vs 6.6%), and arrhythmias (15.8% vs 4.3%) were higher in the IVP group than the IVPB group, respectively. Medication-related sedation was observed after 8% of IVP administrations and 15.5% of IVPB administrations. These results are preliminary and statistical analysis will follow.

Conclusion

Conclusions to be described.

Miller, Mark

Does implementation of the Cepheid XPert® Methicillin Resistant Staph Aureus/ Staph Aureus (MRSA/SA) blood culture test improve patient care?

Miller, Mark[1]; Parish, Tara[1]; Doyle, April[1]; Putney, Geoffrey[2]
[1]Methodist South Hospital, Memphis, TN ; [2]St. Jude Children's Research Hospital, Memphis, TN

Background and Purpose

Staphylococcus aureus grows in gram-positive cocci in clusters (GPCC) and is commonly divided into two distinct groups, Methicillin-resistant (MRSA) and Methicillin-susceptible (MSSA). Vancomycin is a standard treatment for patients infected with MRSA and is started empirically for at-risk patients or when preliminary gram stain shows GPCC. Patients receiving vancomycin require additional lab monitoring and often a pharmacy consult to manage. This may negatively impact patients and facilities from a safety and financial standpoint. The Cepheid XPert® (MRSA/SA) blood culture test rapidly detects MSSA/MRSA with a high specificity and sensitivity and was implemented in three adult hospitals within the Methodist LeBonheur healthcare system in 2021. The primary objective was to evaluate if utilization of the Cepheid XPert® test resulted in fewer vancomycin days of therapy. Secondary objectives were length of stay, rate of documented pharmacist intervention, and occurrence of acute kidney injury.

Methods

This was a retrospective chart review from June 1, 2021 - June 1, 2024. To date, we have collected and analyzed 88 patients. Enrollment thus far has been limited due to an electronic medical record transition. Patients were divided into two groups, those that did and those that did not receive the Cepheid XPert® test. Patients were included if they were at least 18 years of age, had GPCC in the initial set of blood cultures, and received vancomycin. Exclusion criteria was end-stage renal disease, hemodialysis, vancomycin pulse dosing strategy, history of multidrug resistant organisms within 90 days, IV drug abuse, or documented allergy/reaction to vancomycin.

Results

In the primary outcome, no significant difference has been found between the groups thus far. Pharmacists intervened on 75% of the Cepheid XPert® test results to de-escalate 60% of the vancomycin. No significant difference has been seen in length of stay or occurrence of acute kidney injury. Baseline characteristics of both groups are similar, except gender.

Conclusions

While utilization of the Cepheid XPert® has not resulted in significantly fewer vancomycin days of therapy, it trends towards significance. It is recommended to continue utilizing the Cepheid XPert® test and consider expanding throughout the entire healthcare system.

Mooney, Kaitlin

Evaluation of Prescribing Practices of Lipid-Lowering Therapies and Optimization

Fuller, Laura
Baptist Memorial Hospital-Desoto, Southaven, MS

Background/Purpose

Atherosclerotic cardiovascular disease (ASCVD) is a leading cause of morbidity and mortality worldwide, with elevated low-density lipoprotein cholesterol (LDL-C) as a key modifiable risk factor. While statins and ezetimibe remain first-line therapies to lower LDL-C, many patients face challenges related to adherence, intolerance, and inadequate LDL-C reduction. Additionally, newer therapies such as PCSK9 inhibitors and inclisiran offer alternative approaches for patients requiring further LDL-C lowering. The purpose of this study is to evaluate current prescribing practices of lipid-lowering therapies in patients at Baptist Memorial Healthcare facilities and identify opportunities for optimizing treatment, particularly focusing on the role of PCSK9 inhibitors and inclisiran for those who have not met target LDL-C levels on first-line therapy or those unable to tolerate first-line therapy.

Methodology

This is a retrospective chart review evaluating the lipid-lowering therapy regimens of patients treated at a Baptist Memorial Healthcare facility. Eligible patients include those aged 18 or older with documented LDL-C levels. Data will be collected from electronic health records and will include demographics, baseline and follow-up LDL-C levels, and the current lipid-lowering therapy. The study will assess the effectiveness of prescribed therapies in achieving LDL-C goals and identify potential areas for optimization, such as the addition of PCSK9 inhibitors or inclisiran. Opportunities for improving therapy adherence and intensifying lipid-lowering strategies will also be explored.

Results/Conclusion

Results will be described

Morris, Khalee

Evaluation of the Impact of Pharmacist Involvement in the Transition of Care Process

Khalee B. Morris; Dylan Wilson and Angelique Thompson
Jackson-Madison County General Hospital, Jackson, TN

Purpose

To evaluate the impact of pharmacist-led meds-to-beds discharge service on 30-day readmission rates compared to those discharged without the meds-to-beds service.

Methods

In this single-center, retrospective study, patients were included if they were discharged from Jackson-Madison County General Hospital (JMCGH) between April – September 2024. The exclusion criteria included rate of mortality, severity of illness, and age. Study patients (meds-to-beds) were matched 1:4 with control patients (no meds-to-beds) based on their discharge floor. The primary outcome of this study was the 30-day readmission rate. The secondary endpoints included patient out-of-pocket expenses, prescriptions dispensed per day, patients serviced per day, and observed-to-expected 30-day readmission ratio based on CMS risk calculations.

Results

During the study period, 526 patients received the meds-to-beds service, with 83 excluded due to no CMS data for 30-day readmission risk. A total of 443 patients were included in the meds-to-beds discharge service, with a matched group of 1772 patients who did not receive the meds-to-beds discharge service. Although they were matched based on the discharge floor, the two groups were not evenly balanced regarding age, gender, race, and inpatient length of stay. For 30-day readmissions, there was statistically (p-value: 0.575) no difference between patients who received the meds-to-beds discharge service and those who did not (14.2% vs. 13.2%). The observed-to-expected ratio for readmissions for the non-meds-to-beds group was 0.747 and 0.798 for the meds-to-beds group. Our study demonstrated that 4.1 patients received the meds-to-beds discharge service, and 9.1 prescriptions were distributed per day. The total patient copay was $5025.51.

Conclusion

The baseline characteristics of the meds-to-beds group versus the non-meds-to-beds group were unbalanced, which made it difficult to assess whether there was truly a difference in 30-day readmissions. The observed-to-expected ratio helped to control for the imbalance between the two groups and was similar. Furthermore, the meds-to-beds discharge service provided a monetary benefit for the outpatient pharmacy at JMCGH.

Neal, Maria

Impact of Adjunctive Dronabinol for Acute Pain Following Trauma

Neal, Maria; Cox, Betsy; and Dukes, Alan; and Herrmann, Brennan
The University of Mississippi Medical Center, Jackson, Mississippi

Background and Purpose

Dronabinol, a synthetic form of delta-9-tetrahydrocannabinol (THC) has been proposed for acute analgesia post-traumatic injury. Studies demonstrated increased analgesic requirements post-traumatic injury among THC users and a pilot match study showed decreased opioid consumption among THC users who received dronabinol. This study aimed to evaluate the impact of adjunctive dronabinol for acute pain in THC positive trauma patients.

Methods

This single-center, retrospective matched cohort study included patients admitted to the trauma service between 2019 and 2024, with THC-positive urine drug screen. Patients excluded were pregnant, incarcerated, started treatment > 5 days after admission, had < 48 hours of dronabinol treatment, and were on dronabinol or cannabidiol prior to admission. Patients receiving dronabinol were matched to control based on age, gender and injury type. The primary endpoint was the difference of average opioid consumption, defined in morphine milliequivalents (MME), during the first 7 days of hospitalization. Secondary endpoints include average multimodal analgesic consumption, opioid consumption in self-reported THC users, rates of patients discharged on opioids, discharge MME, hospitalization length, and intensive care unit stay length.

Results

A total of 124 patients were included in this study with 51 in the treatment and 73 in the control. Groups were similar except patients receiving dronabinol had higher rates of ICU admission (70.59% vs 43,84%; p=0.003) and mechanical ventilation (43.14% vs 26.03%; p=0.046). Average daily MME consumption was similar between treatment and control (20.4 [12 - 38.79] vs 16.5 [8.57 - 27.22]; p=0.197). Opioid consumption in self-reported THC users was also similar (15.27 [8.77 - 25.72] vs 16.09 [8.78 - 30.36]; p=0.899) Rates of opioid prescribing at discharge were similar between groups, but average MME was lower for dronabinol patients (30 [30-60] vs 50 [30-60]; p=0.031). Patients receiving dronabinol had higher multi-modal consumption, in milligrams, with acetaminophen (2571.43 (1903.57 - 3026.79) vs 2000 [1300 - 2616.67]; p=0.001) and gabapentin (771.43 [600 – 900] vs 771.43 [600 – 900]; p<0.001).

Conclusions

The use of dronabinol did not reduce opioid consumption in THC positive trauma patients. Similarly, self-reported THC users experienced similar findings. Future studies are necessary with larger study populations to support these findings.

Nguyen, Cathy

Impact of a Pharmacist-Led Culture Callback Program in the Emergency Department

Nguyen, Cathy; Harlan, Sarah; Brunson, Allison; Ruckel, Cassidy
Baptist Memorial Hospital – Memphis

Background/Purpose:

Urinary tract infections (UTI), skin and soft tissue infections (SSTI), and sexually transmitted infections (STI) are common in the emergency department (ED). Pharmacist-led post-discharge culture review programs have demonstrated decreased ED readmission and expedited follow-up care. One study found 19% of physician-reviewed culture follow-up cases resulted in ED readmission compared to 7% of pharmacist-reviewed. This study aimed to describe the impact of a pharmacist-led culture callback program at Baptist Memorial Hospital-Memphis.

Methods:

This single-center, retrospective chart review quantified interventions through a pharmacist-led ED culture follow-up program for urine, upper respiratory tract, and sexually transmitted infections. Patients discharged from Baptist Memorial Hospital-Memphis ED from August 1, 2023 to May 15, 2024 with pending urine, upper respiratory tract, or STI culture/specimen were screened for inclusion. Patients were excluded for the following: hospital admission, did not receive oral antibiotics at ED discharge or had insufficient specimen for testing. The primary objective was to quantify the number of pharmacist interventions made. The secondary objectives were to assess the number of ED return visits within 30 days, types of interventions, incidence hospital re-admission within 30 days, incidence of antibiotic optimization encounters, and the time to intervention from ED discharge.

Results:

A total 520 patients were included and 70 pharmacist interventions were documented. Interventions included new prescriptions (n=53), recommend return to the ED for re-evaluation (n=7), or referral to a specialist (n=10). There were 25 patients (5%) that returned to the ED and 25 (5%) required hospital admission within 30 days of discharge. The average time from ED discharge to pharmacist intervention was 46.3 hours.

Conclusion:

This study supports previous evidence demonstrating the clinical benefit of a pharmacist-led culture callback program. Interventions led to optimization of antibiotic regimen and low incidence of return ED visits. The time to pharmacist interventions through this program was similar to previously reported literature.

Nguyen, Luke

Tenecteplase as an Alternative to Alteplase in Acute Ischemic Stroke

Nguyen, Luke; Dixon, Tripp; Harlow, Megan, and Aldridge, Harleigh
Mississippi Baptist Medical Center, Jackson, Mississippi

Background and Purpose

The role of thrombolytic therapy in the management of acute ischemic stroke (AIS) is well established. Until the recent approval of tenecteplase, alteplase was the only agent approved by the Food and Drug Administration (FDA) for the treatment of AIS. A growing body of evidence supports the use of tenecteplase due to its extended half-life, enhanced fibrin specificity, and shorter administration time. Since 2023, Mississippi Baptist Medical Center (MBMC) has transitioned from alteplase to tenecteplase for the treatment of AIS. This study aims to evaluate the efficacy and safety profiles of patients treated with tenecteplase versus alteplase for AIS at MBMC.

Methods

This single-center, retrospective, cohort study evaluated patients who received alteplase from October 1, 2022, to September 30, 2023, and tenecteplase from October 1, 2023, to September 30, 2024, following MBMC's transition to tenecteplase. Pregnant patients were excluded from the analysis. The primary outcome measure was the proportion of patients achieving a favorable functional outcome, defined as a modified Rankin Scale (mRS) score of 0 to 1 at discharge. The primary safety endpoint comprised the incidence of intracranial hemorrhage occurring within 36 hours following thrombolytic administration. Secondary endpoints included door-to-needle time and total length of hospital stay. Statistical analyses were conducted using Chi-squared tests and t-tests.

Results

The final analysis included 86 participants, with 36 in the tenecteplase group and 40 in the alteplase group. Baseline characteristics were comparable across both cohorts. There was no statistically significant difference in mRS scores at discharge between patients who received tenecteplase versus alteplase ($p=0.40$). Although the incidence of intracranial hemorrhage was higher in the tenecteplase group, these results did not reach statistical significance ($p=0.29$). Furthermore, no statistically significant differences were observed in secondary endpoints, including door-to-needle time or length of hospital stay.

Conclusions

The study's findings align with current literature, indicating that tenecteplase demonstrates comparable efficacy and safety to alteplase in the treatment of AIS.

Nichols, Emily

Impact of Staphylococcus Aureus Blood Polymerase Chain Reaction Assay on Antibiotic Therapy

Nichols, Emily; Everitt, Jessica
Mississippi Baptist Medical Center, Jackson, MS

Background and Purpose

In December 2023, Mississippi Baptist Medical Center (MBMC) implemented the Cepheid Xpert methicillin-resistant Staphylococcus aureus (MRSA) blood polymerase chain reaction (PCR) diagnostic assay to distinguish coagulase negative Staphylococcus (CoNS) from other gram positive cocci in blood cultures. The purpose of this review was to analyze the effect of the Cepheid MRSA PCR assay on the duration of vancomycin therapy. The primary objective of this study was to determine the average length of vancomycin therapy in patients with a confirmed CoNS blood culture. The secondary objectives of this study were incidence of acute kidney injury (AKI) and utilization of trough levels for vancomycin.

Methods

This was a retrospective chart review which enrolled 100 patients hospitalized at MBMC. These subjects were included to determine the average vancomycin length of therapy for confirmed CoNS blood cultures pre- and post- PCR implementation. Subjects excluded from this study included patients not receiving vancomycin therapy, patients with other indications for vancomycin outside of bacteremia, and any blood cultures speciating Staphylococcus aureus isolates or other gram positive cocci. The pre-implementation group included 50 subjects with CoNS positive blood cultures from January 1, 2023, through June 30, 2023. The post-implementation group included 50 subjects with a MRSA PCR assay completed and a subsequent culture confirming CoNS from January 1, 2024, through June 30, 2024.

Results

The average vancomycin length of therapy in the pre-implementation group was 4.62 days, and the average length of therapy in the post-implementation group was 4.2 days ($p = 0.49$). The average number of vancomycin trough levels in the pre-implementation group was 1.46 and 1.36 in the post-implementation group ($p = 0.78$). The incidence of AKI was higher in the pre-implementation group than the post-implementation group (6% and 4%, $p = 0.68$).

Conclusions

The MRSA PCR assay is utilized to differentiate Staphylococcus aureus bacteremia from other gram positive isolates that are potential contaminants. The implementation of the MRSA PCR assay at MBMC facilitated early discontinuation of vancomycin which shortened length of therapy, reduced the incidence of AKI, and decreased the number of vancomycin levels.

Nix, Charley Ann

Impact of Universal Decolonization in Intensive Care Units on Rates of Hospital-Acquired *Staphylococcus aureus* Infections

Nix, Charley Ann; Stover, Kayla R.; Wingler, Mary Joyce; Barber, Katie; Jhaveri, Tulip A.; Cretella, David[1]
University of Mississippi Medical Center, Jackson, MS

Background and Purpose

Decolonization strategies, such as universal decolonization, have been shown to be effective at reducing transmission and preventing infections in those colonized with *Staphylococcus aureus.* In 2022, the University of Mississippi Medical Center implemented universal decolonization in the intensive care units. The purpose of this study is to assess the effectiveness of this intervention in the intensive care unit on rates of *S. aureus* hospital-acquired infections.

Methods

This single-center, pre- and post-intervention, quasi-experimental study evaluated patients admitted to an ICU at UMMC between May 1, 2022 and October 1, 2024. The intervention consisted of five days of decolonization with twice-daily topical mupirocin ointment (2%). Patients were included in the study if they were admitted to the ICU, at least 18 years of age, had a confirmed *S. aureus* pneumonia or bloodstream infection that was not present on admission. Only the first incidence per patient per study period was included. Pregnant and incarcerated patients were excluded. The primary endpoint is the rate of hospital-onset *S. aureus* infections (HAI-SA) prior to and after the implementation of universal decolonization. Secondary endpoints include the number of MRSA HAIs, methicillin-susceptible *S. aureus* HAIs, and all-cause in-hospital mortality.

Results

A total of 452 patients were screened with 238 included. Preliminary results demonstrate the median age of patients was 53.5 and the majority of patients were male (72%). In the post-group, the median time to de-colonization was 2 days. HAI-SAs declined in the post-group from 158 patients to 80 patients. More patients in the post-group had MSSA (51% vs. 61%) compared with MRSA (49% vs. 39%) (p=0.167). There were significantly more HAI-SAs in the neurosurgical ICU in the post group (27% vs. 46%; p =0.008). In-hospital mortality was significantly reduced in the post-group (32% vs 17%; p = 0.010).

Conclusions

Preliminary results suggest universal decolonization reduces incidence of HAI-SA in ICUs at an academic medical center.

Nix, Phoebe

A Retrospective Review of the Efficacy of Methylene Blue on Mortality in Critical Patients with Refractory Shock in a Health System

Nix, Phoebe; Mills, Keri; Akbik, Muhammad
Baptist Memorial Hospital – Golden Triangle, Columbus, MS

Background and Purpose

Methylene blue (MB) has been explored as an adjunctive treatment for refractory shock where traditional therapies fail. MB directly inhibits nitric oxide synthase (NOS) and blocks the formation of cyclic guanosine monophosphate (cGMP); both are involved in the production and action of nitric oxide (NO). NO is a potent vasodilator that can exacerbate low blood pressure in shock. MB could counteract this vasodilation thereby constricting blood vessels and increasing blood pressure decreasing the need for other vasopressors. Our goal is to assess MB's effect on mortality in critically ill patients who require multiple vasopressors and inotropes to maintain their MAP.

Methods

This is a retrospective electronic chart review of adult critical care patients who required multiple vasopressors to maintain their MAP between 1 August 2021 and 1 August 2024 within the Baptist Healthcare System. Identified patients were categorized into a treatment group who had received at least one dose of MB and a control group that did not receive MB. Patients were excluded if they were pregnant, incarcerated, allergic to food dyes, or received MB for indications other than shock. The primary outcome is to assess methylene blue's effect on mortality in patients in the ICU. Secondary outcomes include assessing MB's effect on time to discontinue vasopressors, days on vasopressor therapy, days in the ICU, and days in the hospital. Data collected included age, sex, weight, primary diagnosis, past medical history, vasopressor, type of shock, MB administration, change in MAP at 6 hours from MB administration, creatinine, CrCl, AST, ALT, bilirubin, and discharge status.

Results

Out of the 164 patients identified, 105 patients were excluded and 59 patients were included with 29 patients in the methylene blue group and 30 patients in the control group. In the methylene blue group, 58% of the participants were male, 62.1% were white, and 37.9% were African American. In the control group, 50% were male, 33.3% were white, and 50% were African American. Data collection revealed a survival rate in the methylene blue treatment arm of 34.5% and a survival rate in the control arm of 30%. Remaining results are to be presented.

Conclusion

To be presented.

Parganas, Christopher

SmartCare: Using A.I. to Transform Patient Education and Improving Health Literacy

Parganas, Christopher[1,3]; Armstrong, Drew[1,3]; Summers, Nathan[1, 2]
Regional One Health, Memphis, TN[1]; University of Tennessee College of Medicine, Memphis, TN[2]; University of Tennessee College of Pharmacy, Memphis, TN[3]

Background and Purpose

Artificial intelligence (A.I.) has become a more sophisticated and easily accessible tool for processing large amounts of data. Various platforms exists that have implemented their own A.I., one of which is ChatGPT that began its development in 2018. The role of A.I. has already been implemented in various medical instances including its use in patient portals, electronic medical records, patient education, and analyzing medical images such as X-rays. Furthermore, the perception of A.I. in healthcare, particularly in pharmacy field is a growing area of interest. Trends have shown that Generation Z and Millennials are more inclined to use A.I. on a daily basis. The emphasis of this study is to record and analyze the perception of A.I. generated education materials created via ChatGPT that focuses on complex disease states such as warfarin management in patients with diabetes.

Methods

This prospective, quantitative questionnaire-based study included 36 participants of which 19% were pharmacy students, 31% were pharmacy residents, 25% were inpatient pharmacists, and 25% were outpatient pharmacists. Enrollment and completion of the survey occurred from January 1, 2025 to February 28, 2025. Participants consented to a series of questions including their age, profession and assessment of A.I. generated material through a 5-point Likert scale.

Results

Results have mirrored current trends in the trust, comfort, and accuracy of A.I amongst younger generations. Of note, 33% of Generation Z and 19% of Millennials were likely to trust A.I. versus 0% of Generation X. It is important to note that acceptance of A.I. was more associated with perceived clinical accuracy in Gen Z and Millennials. When evaluating professional status, all professions were somewhat comfortable or likely to trust A.I. generated materials.

Conclusions

A.I. generated material has become more accessible and is often used in clinical practice to help facilitate patient care. The data collected show a positive response with pharmacy residents and inpatient pharmacists being more receptive of the A.I. generated material. There was no clear consensus on accuracy of the A.I. generated material when stratified based on professional status.

Patel, Neil

The Role of Artificial Intelligence in Clinical Decision Making Using ChatGPT

Patel, Neil and Armstrong, Drew
Regional One Health, Department of Pharmacy, Memphis, TN

Background and Purpose

Managing chronic conditions like heart failure (HF), hypertension (HTN), and diabetes mellitus (DM) can be challenging due to the complexity of their treatments and evolving clinical data. As technology advances in healthcare, including the scope and access to artificial intelligence (AI), it is plausible that healthcare learners and providers will leverage these tools to enhance or assist in their education and clinical decision making. The purpose of study is to evaluate the clinical accuracy of Chat Generative Pre-Trained Transformer (ChatGPT) v4 in generating responses for three complex clinical cases, while assessing the confidence of pharmacists, pharmacy residents, and pharmacy students in utilizing these recommendations for clinical decision-making.

Methods

ChatGPT v4 was utilized to generate clinical responses and therapy management plans for the following disease states: DM, HF, and HTN. Ten pharmacists, PGY1 and PGY2 pharmacy residents, and fourth year pharmacy students were surveyed. Participants were asked to document total time to review and clinical edits made while also rating overall confidence in the plan.

Results

Eight participants from each group completed the survey for a total of 24 responses. The average time spent reviewing and editing varied by each group. For the DM case, pharmacists spent 9 minutes, residents 15 minutes, and students 10 minutes. In the HTN case, pharmacists spent 10 minutes, residents 7 minutes, and students 10 minutes. For the HF case, pharmacists spent 5 minutes, residents 7 minutes, and students 18 minutes. Overall, 16 participants rated the plans as “somewhat confident” with 2 rating as “not confident” and 6 as “very confident”.

Conclusion

Two-thirds of participants were somewhat confident in ChatGPT's clinical decision-making, with 25% being very confident. Based on time spent and total edits made, it is reasonable to infer that AI may be utilized to augment clinical knowledge of pharmacists and complement their professional expertise. Further studies assessing overall clinical accuracy of AI generated materials is needed to enhance confidence and potentially incorporate AI into pharmacy education and clinical practice.

Patel, Shreya

Incidence of Euglycemic DKA in Trauma Patients

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Background and Purpose

Euglycemic diabetic ketoacidosis (euDKA) is a critical metabolic condition that can be particularly challenging to diagnose due to the absence of the hallmark high blood glucose levels. Its incidence among trauma patients, who are already vulnerable to various metabolic disturbances, is not well-documented. The primary objective of this study is to evaluate the incidence of euglycemic DKA in trauma patients as well as identify risk factors associated with its development.

Methods

This single center, retrospective study assessed all patients admitted to the trauma ICU at Regional One Health from July 1, 2023 - July 1, 2024. Patients who were pregnant or breastfeeding, less than 18 years of age, or had a urinalysis obtained at least 7 days from date of hospital admission were excluded. Demographic data, ISS scores, history of home SGLT2i/GLP-1RA use, and exposure to surgery were collected. Diagnostic criteria for euDKA included a pH < 7.3, anion gap >12, serum bicarbonate <18 mEq/L, positive ketones on urinalysis, and blood glucose < 180 mg/dL.

Descriptive statistics were used to evaluate overall incidence of euDKA and relevant diagnostic factors in the entire population. Patients with and without positive urine ketones were compared using Wilcoxon Rank Sum and chi-square analysis, as appropriate.

Results and Conclusion

Results to be described.

Paul, Caroline

Hydrocortisone and Fludrocortisone versus Hydrocortisone Alone in Septic Shock—A Single Center, Retrospective Study

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[2]University of Tennessee Health Science Center, Division of Pulmonary, Critical Care & Sleep Medicine, Memphis, TN

Background and Purpose:

Septic shock is one of the leading global causes of mortality in critical care units with the short-term mortality estimated to be 45-50%. Guideline direct management for septic shock includes early recognition, stabilization of hemodynamics, fluid resuscitation, and antibiotics. The most recent Surviving Sepsis guidelines provide a weak recommendation for intravenous corticosteroids as an adjunct therapy that may have potential benefit in patients requiring continued use of vasopressors. Multiple randomized controlled trials (RCTs) and meta analyses have been conducted to demonstrate corticosteroid efficacy in septic shock, utilizing various regimens and offering little guidance on specific steroids or dosing regimens. Previous RCTs have utilized various steroid regimens to evaluate their effect on mortality in septic shock. To our knowledge, there has not been a RCT that has directly compared single steroid to dual steroid therapy. The purpose of this study is to evaluate all-cause 28-day mortality, resolution of shock within 72 hours, and instance of hypernatremia in critically ill patients who received both hydrocortisone and fludrocortisone compared to hydrocortisone alone in septic shock.

Methods:

This is a single-center, retrospective, cohort study of adult patients who were admitted to the medical intensive care unit at Regional One Health between March 2019 to December 2024 who met criteria for septic shock. Patients were excluded if they were pregnant, incarcerated, didn't receive initial sepsis guideline treatment, took steroids prior to admission, had an indication for steroids other than septic shock, or admitted to trauma or burn services. A time to event analysis was performed for those who received hydrocortisone alone (control group) and those who received hydrocortisone and fludrocortisone in combination (test group).

Results and Conclusions:

Results to be described

Peng, Gina

Optimization of Medication Dose Warnings in a Pediatric Specialty Hospital

Peng, Gina, Hughes, Kristen, Daniels, Calvin C, Aguero, David, Robertson, Jennifer, Hoffman, James
St. Jude Children's Research Hospital, Memphis, TN

Background and Purpose

Medication dose warnings in the electronic health record (EHR) are critical for preventing dose errors, particularly in pediatric patients who are at higher risk due to complex dosing regimens. However, these warnings can lead to desensitization when overly frequent or clinically irrelevant, reducing alert compliance. This quality improvement project aims to optimize EHR dose warnings for pediatric hematology/oncology patients at St. Jude Children's Research Hospital. The goal is to reduce inappropriate alerts by enhancing their clinical relevance and improving alert compliance to combat alert fatigue.

Methods

Initially, a Pareto chart of the top 20 medications with dose warnings that have fired in 2024 helped guide optimizations for medications. An interdisciplinary team comprised of physicians, advanced practice professionals, clinical pharmacy specialists, clinical staff pharmacists, medication safety pharmacists, and clinical informatics staff was formed to review interventions. The Model for Improvement framework is used to guide this project with iterative Plan-Do-Study-Act (PDSA) cycles to plan interventions. PDSA cycles include reviewing high-frequency dose warnings, implementing dosing rule modifications, evaluating their impact, and refining optimization strategies based on user feedback. The SMART aim of this project is to reduce the number of dose warnings per 100 orders by 20% by May 2025. Baseline data on dose warning frequency is 7.06 per 100 orders, and the goal is to decrease this measure as dosing rules are modified. The balancing measure will be voluntary reports of wrong dose errors throughout the project period.

Results

Over the course of 6 months, the average dose alert volume decreased by 19.6%, from 7.06 to 5.68 warnings per 100 orders, reflecting a reduction in non-actionable alerts. This phased approach targeted high-frequency dose alerts for specific medications, with interventions implemented for oral lorazepam (December 2024), oral penicillin (January 2025), polyethylene glycol 3350 (March 2025), and tropicamide 1% ophthalmic solution (March 2025). While preliminary results indicate a decline in overall alert burden, further analysis is ongoing to assess provider alert responses, as orders outside the dosing range require justification.

Conclusions

Optimizing medication dose warnings through targeted interventions has demonstrated a reduction in overall alert frequency, suggesting a potential improvement in alert relevance.

Perkins, Kendall

Impact of Oral Antihypertensive Administration Timing on Hypertensive Emergency Patients Treated with Nicardipine

Perkins, Kendall; Jones, Kerri; Kimmons, Lauren A; Twilla, Jennifer; Clark, Kacie
Methodist University Hospital – Memphis, TN

Background and Purpose

Hypertensive emergency, characterized by severe blood pressure (BP) elevation with acute end-organ damage, requires immediate BP reduction. Guidelines recommend reducing mean arterial pressure by no more than 25% in the first hour, with gradual normalization over 24-48 hours. Nicardipine, a commonly used intravenous antihypertensive, provides stable BP control but often prolongs emergency department (ED) stays. While early oral antihypertensive initiation has been studied in hypertensive urgency and intracerebral hemorrhage (ICH), its impact on nicardipine duration in hypertensive emergencies remains unclear. This study evaluates whether the time to initiation of oral antihypertensive medications impacts utilization of nicardipine and other hospital outcomes.

Methods

This multi-center, retrospective cohort study included adult patients admitted to Methodist LeBonheur Healthcare System hospitals from January 1, 2023, to August 31, 2024, with hypertensive emergency initiated on nicardipine in the ED. Patients were categorized based on timing of oral antihypertensive initiation: early initiation (<12 hours), intermediate initiation (12-24 hours), and delayed initiation (>24 hours). Exclusion criteria included initial SBP <180 mm Hg, aortic dissections, preeclampsia/eclampsia, out-of-system transfers, early nicardipine discontinuation, or alternative vasoactive infusion. The primary outcome was time from nicardipine initiation to discontinuation.

Results

Of the 170 patients included, 106 (62.4%) were in the early initiation group, 43 (25.3%) in the intermediate group, and 21 (12.4%) in the delayed group. Mean nicardipine duration was longest in the delayed group (31.7 $\pm$ 5.0 hours), followed by the intermediate group (19.2 $\pm$ 5.4 hours), and shortest in the early group (15.1 $\pm$ 7.9 hours) ($p < 0.0001$). Hospital LOS was lowest in the early group (3.1 $\pm$ 2.1 days) versus the highest in the delayed group (4.9 $\pm$ 5.9 days) but was not statistically significant ($p = 0.320$).

Conclusions

Early oral antihypertensive administration (<12 hours) significantly reduced nicardipine duration but did not statistically impact LOS. Further research is needed to assess clinical implications, cost savings, and additional hospital metrics.

Pham, Eric

Clinical Pharmacist Interventions in the Pediatric Emergency Department at an Academic Medical Center

Pham, Eric; Gray, Madison ; Cox, Betsy ; Artman, Katherine
University of Mississippi Medical Center (UMMC), Jackson, Mississippi

Background and Purpose

The objective of this study was to quantify and describe the interventions performed by a pediatric emergency medicine clinical pharmacist (EMCP) at an academic medical center (AMC), which serves adult and pediatric patients. This study hypothesized that the implementation of a clinical pharmacist dedicated in the pediatric emergency department (ED) of an AMC will be closely involved with ED providers and staff through optimal medication selection and dosing, identification of medication errors, and response to trauma, intubation, and cardiac arrest events.

Methods

This retrospective, single-center descriptive study was performed to quantify and describe the types of interventions performed by a pediatric EMCP at an AMC Children's Hospital. On October 1, 2023, a dedicated clinical pharmacist was integrated in the pediatric ED at the UMMC Children's Hospital. This study described the quantity and types of interventions and activities through documented “iVents” of a dedicated EMCP from October 1, 2023, through October 1, 2024. Interventions and activities were identified by retrospective data collection from electronic medical records of all patients admitted to the ED during the study period. REDCap was utilized for data collection and storage.

Results

A total of 350 pharmacist interventions or activities were included in this analysis. The most common types of interventions performed were related to medication dose rounding, followed by medication dose/frequency change recommendations. A total of 53 medication errors were identified and prevented. The mean time spent per intervention was 11.3 minutes. The most common therapeutic drug classes intervened upon were related to analgesic and anesthetic agents (n=98, 36.6%), followed by anti-infective agents (n=71, 26.5%).

Conclusions

In this retrospective, single-center study, the dedicated pediatric EMCP performed 350 documented interventions for 266 patients during the 12-month study period. Most interventions performed were related to medication dose rounding to ensure medications are measurable as unit-dose products or ease of intravenous dosage and administration. This can be an additional safeguard to reduce medication dose preparation errors by pharmacy technicians and bedside nurses. In addition, the pediatric EMCP identified and prevented a total of 53 documented medication errors.

Phillips, Auston

The Role of Nasal MRSA Screening in Guiding Antibiotic De-escalation and Reducing Broad-Spectrum Antibiotic Use – A Single Center, Retrospective Study

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Background and Purpose

Healthcare-associated infections (HAIs) are a significant cause for concern among hospital patients, particularly those that are critically ill. While infection rates have been steadily declining over recent years, according to the CDC, Methicillin-Resistant Staphylococcus Aureus (MRSA) is one of the leading causes of infection in patients admitted to the hospital. MRSA infection remains a leading cause of morbidity and mortality as it has become endemic in hospitalized patients. The majority of patients who develop MRSA infection will have been previously colonized prior to being infected, with up to 20% of patients being colonized in the nares. There are several small studies that suggest MRSA nares can be used as an antimicrobial stewardship tool to guide more definitive therapy for pneumonia. The 2019 Infectious Disease Society of America (IDSA) Community-Acquired Pneumonia guidelines also recommend obtaining MRSA nares to aid in screening for the bacteria. The purpose of this study is to evaluate whether the use of an MRSA nasal screen leads to quicker de-escalation of antibiotics and decreased length of stay in both general floor patients and medical intensive care unit (ICU) patients.

Methods

This single-center, retrospective, cohort study assessed patients who were admitted to the medical ICU or internal medicine services at Regional One Health between December 31, 2019 and June 30, 2024 empirically receiving an anti-MRSA antibiotic and obtained a MRSA nares alongside a historical comparator group who did not obtain a nares. Patients were assigned to groups based on whether or not an MRSA nares was obtained during their inpatient stay. A time-to-event analysis was performed for the two groups evaluating the time to antibiotic discontinuation or de-escalation and hospital length of stay for the two groups. Differences in these results were also analyzed dependent upon the results of the MRSA nares. A subgroup analysis was performed evaluating whether the use of an alcohol-based antiseptic before administration of an MRSA nares influenced the final result of the nares.

Results

Results to be described.

Conclusions

Conclusions to be described.

Phillips, Kayleigh

Compliance of Antimicrobial Stewardship Recommendations for Cephalexin as Outpatient Empiric Therapy for Urinary Tract Infections

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Background and Purpose

Urinary tract infections (UTI) are one of the most common bacterial infections in pediatric patients that affect approximately 9% of females and 2% of males before the age of seven. According to the American Academy of Pediatrics, amoxicillin-clavulanate, cefixime, cefpodoxime, cefprozil, cefuroxime, cephalexin, and sulfamethoxazole-trimethoprim are the primary oral antibiotics used to treat UTIs in children. The antimicrobial stewardship (AMS) team at Le Bonheur Children's Hospital (LBCH) implemented institution-based empiric therapy recommendations for UTIs with cephalexin as the antibiotic of choice based on the institutional antibiogram. For patients one month of age and older with uncomplicated UTIs, the recommended dosing regimen for cephalexin is 100 mg/kg/day divided three times daily with a maximum of 1,000 mg per dose. For adolescents with mild to moderate UTIs, 500 mg twice daily may be prescribed as an alternative. The purpose of this study is to evaluate provider compliance of AMS recommendations for cephalexin empirically prescribed for UTI treatment in patients discharged from the emergency department (ED) and fast track, an urgent care within the ED.

Methods

This is a single center, retrospective chart review of patients who were discharged from the ED or fast track at LBCH from August 1, 2023 to July 31, 2024. Patients were included if they were one month to seventeen years of age and received a prescription for cephalexin for the empiric treatment of UTI at discharge. Charts were screened and data collected included: patient demographics, date and type of urine collection, urinalysis results, cephalexin dosing and product selection, and prescribing provider. The primary outcome of the study is to evaluate provider compliance of AMS recommendations for cephalexin prescribed as empiric therapy for UTIs. Dosing regimens were assessed based on compliance to AMS recommendations. Patients were divided into three subsets: mg/kg doing, mild to moderate dosing for adolescents, and maximum recommended dose. Doses were considered appropriate if within 10% of recommended regimens. Secondary outcomes include assessing the compliance of prescribing specialties to AMS recommendations and identifying areas to improve accuracy and appropriateness of prescribing practices.

Results

Results will be described.

Conclusions

Conclusions will be described.

Pitts, Anna Greer

Pharmacist Intervention in Patients with Congestive Heart Failure: Impact on 30-day Readmissions in a Community Teaching Hospital

Pitts, Anna Greer[1], Garey, Karmen[1], Montgomery, Natalie[1,2], Crumby, Trey[1]
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Background/Purpose

Heart failure (HF) is a leading cause of morbidity and mortality in the world and results in frequent readmissions to the hospital.[1] Signs and symptoms of heart failure can include fatigue, shortness of breath, coughing, and swelling.[2] Guideline-directed medical therapy (GDMT) can decrease patients' risk of readmissions and improve long-term health.[1,2] The four key components for GDMT: ACEi/ARB/ARNI, aldosterone antagonist, SGLT2-inhibitor, and beta blocker.[1] The four pillars of heart failure work by regulating blood pressure, slowing disease progression, and reducing symptoms.[2] Starting immediate heart failure treatment helps decrease the risk of hospitalizations and death.[2] By ensuring that patients are on appropriate medications prior to leaving the hospital, the healthcare system is helping to reduce readmission rates and improving patients' quality of life. The objective of this study is to evaluate the frequency of pharmacist consultation/intervention for GDMT medications and which medications were most commonly initiated at Baptist Memorial Hospital – North Mississippi.

Methods

This study is a retrospective, observational analysis of patient charts to determine pharmacist intervention in determining GDMT needs and consults with Meds-to-Bed. Patients who have a documented history of heart failure will be included for review. When reviewing the patients with a pharmacy consult, we will review the GDMT medications and will monitor for readmission within 30 days. We will be reviewing patients from October 2024 - March 2025. All patients with a documented history of heart failure who are admitted to Baptist Memorial Hospital – North Mississippi will be evaluated for GDMT medications that were initiated or continued from home. Using these initial criteria, the data collection form will be completed. Information collected on this form will include length of stay, initial pharmacy consult, readmissions within 30 days, re-admitting reason, and payor status.

Results

Results are pending the completion of data analysis and will be described.

Conclusion

Conclusions are pending the completion of data analysis and will be described.

Pollan, Katherine

Assessing the tolerability of sacubitril/valsartan in Veterans with Heart Failure with Reduced Ejection Fraction

Pollan, Katherine and Pearson, Madalyn
G.V. (Sonny) Montgomery VA Medical Center, Jackson, Mississippi

Background/Purpose

Sacubitril/valsartan has established its place as guideline-directed medical therapy by decreasing morbidity and mortality in patients with heart failure. However, previous studies have found that discontinuation rates are approximately 11-18% and often due to side effects, such as hypotension. Discontinuation of sacubitril/valsartan has been associated with poor prognosis. We aim to evaluate the tolerability of sacubitril/valsartan in a Veteran population to guide prescribing and dosing optimizations.

Methods

This retrospective chart review included Veterans with reduced ejection fraction patients who were prescribed sacubitril/valsartan from January 2016 – January 2020 and were followed by a Veterans Affairs provider. The primary objective was to assess the tolerability of sacubitril/valsartan in a Veteran population, specifically the ability to continue therapy for a prolonged period of time with or without side effects. Secondary objectives assessed the rate of side effects, tolerability of each strength of sacubitril/valsartan, and medication adherence.

Results

A total of 90 Veterans were included in the study, majority being male (96.7%) and an average age of 66.60 ± 10.16 years. Seventy Veterans (77.8%) successfully tolerated sacubitril/valsartan, resulting in an overall discontinuation rate of 22.2%. Of the 70 Veterans who successfully tolerated sacubitril/valsartan, 17 Veterans (24.3%) required a dose adjustment due to reported adverse events. The most common adverse events reported were hypotension in 18 Veterans (20%), hyperkalemia in 11 Veterans (12.2%), and acute kidney injury in 4 patients (4.4%). The common discontinuation reason was hypotension, with 7 Veterans.

Conclusion

This study showed a slightly low rate of sacubitril/valsartan tolerability compared to previously published studies; however, the majority of Veterans who experienced adverse effects while taking sacubitril/valsartan reduced the dose rather than having the medication discontinued. This highlights the importance of managing side effects to prevent discontinuation of crucial medication in the management of their heart failure.

Poush, Madeline

Evaluating the Effects of Dexamethasone Use for Postoperative Nausea and Vomiting in Diabetic, Critically Ill, Surgical Patients

Poush, Madeline - Author; Smith, Rebecca - Co-Author
University of Arkansas for Medical Sciences Medical Center, Little Rock, AR

Background/Purpose

Dexamethasone is commonly used for postoperative nausea and vomiting (PONV) prophylaxis but may contribute to steroid-induced hyperglycemia (SIHG), which is associated with worse patient outcomes. While some studies suggest no difference in SIHG between diabetic and non-diabetic patients, they are limited by methodological inconsistencies. Other studies and observations at the University of Arkansas for Medical Sciences Medical Center indicate that dexamethasone use is associated with a significant increase in blood glucose. However, data on its impact on critically ill, diabetic, surgical patients remain limited. This project aims to evaluate diabetic, critically ill, surgical patients who did and did not receive dexamethasone and to compare glycemic control, management, and clinical outcomes.

Methods

This was a single-center, retrospective chart review of adults with diabetes admitted to the acute care surgery services who underwent a surgical procedure and received PONV prophylaxis between January 1, 2022 and June 30, 2024. Eligible patients were 18 – 89 years old with diabetes, admitted to the Surgical Intensive Care Unit, Trauma, or Emergency General Surgery services, and received surgical intervention during hospitalization. Exclusion criteria were death within 24 hours from last surgical intervention, presentation with diabetic ketoacidosis or hyperosmolar hyperglycemic state, preoperative corticosteroid use beyond PONV prophylaxis, and pancreatic surgery or injury. The primary objective was to assess the impact of dexamethasone on postoperative blood glucose levels and glycemic control from postoperative day (POD) 0 to POD 3 in patients who received dexamethasone compared to those who did not. Secondary objectives included hospital and ICU mortality, hospital and ICU length of stay, readmission rates, incidence of AKI, insulin use, and adverse effects.

Results

Results to be described.

Conclusions

Conclusion to be described.

Ramirez, Laura

Clinical Outcomes for Pediatric Patients Treated with Empiric Ceftazidime for Respiratory Tract Infections due to a Potentially Mislabeled Extended-Spectrum Beta-Lactamase Producer

Ramirez, Laura[1,2]; Fly, James (Hunter) [1,2]; Shannon, Ali[2]; Lee, Kelley[1,2]
University of Tennessee Health Science Center, Memphis, TN[1] ,Le Bonheur Children's Hospital, Memphis, TN[2]

Background and purpose

Extended-spectrum beta-lactamases (ESBLs) are rapidly evolving enzymes that hydrolyze multiple beta lactams. ESBL testing recommendations are provided by The Clinical and Laboratory Standards Institute (CLSI). Our microbiology laboratory uses the VITEK 2 ESBL test, an FDA-approved commercially available product. Although the test provides rapid detection of ESBL production, it is not a definitive test, causing the identification of ESBL production to be a challenge for clinical microbiology laboratories, leaving the possibility of over-labeling ESBLs, and contributing to healthcare providers selecting more broad-spectrum definitive therapy than necessary. The purpose of this project was to evaluate clinical outcomes for patients with potentially mislabeled ESBL-positive respiratory cultures empirically treated with ceftazidime at the time of switching to definitive treatment. We hypothesize patients empirically treated with ceftazidime for ESBL-positive respiratory cultures with a susceptible MIC by breakpoint will not have worse clinical outcomes.

Methods

A retrospective chart review was conducted at our institution for patients from January 1, 2011, to October 4, 2024. Patients less than 18 years of age with an ESBL-positive labeled respiratory culture (study cohort) or an ESBL-negative respiratory culture (matched cohort) empirically treated with ceftazidime with a susceptible minimum inhibitory concentration (MIC) by breakpoint were included. Patients with immunodeficiencies, concurrent unrelated infections, treated with ceftazidime for less than 24 hours, or died within 24 hours of starting ceftazidime treatment were excluded. The primary outcome was symptom improvement or no worsening of symptoms versus symptom worsening at the time of switching to definitive treatment. A composite efficacy outcome composed of temperature, white blood cell (WBC) count, respiratory symptoms, and inflammatory marker c-reactive protein (CRP) were used in the investigation of the primary outcome. The secondary outcomes were 30-day mortality and 30-day treatment failure defined by the need for re-treatment of the same infection caused by the same organism.

Preliminary Results

During the study period, 116 ESBL (+) respiratory cultures were identified. 109 cultures were excluded due to 48 being identified as resistant by MIC, 57 positive cultures not being treated with ceftazidime, 2 cultures being treated with ceftazidime for less than 24 hours, and 2 cultures were obtained after ceftazidime had been started.

Conclusions

Pending

Rangel, Ramiro

Comparison of Clinical Productivity Between Pharmacy Clinical Surveillance Software During Electronic Medical Record Transition at a Rural Community Teaching Hospital

Rangel, Ramiro; Smith, Terry; Needham, Amanda; Wise, Stacy
CHRISTUS Health, Texarkana, Texas

Background and Purpose

Changes of hospital ownership often require a change of operational software. Our institution will be transitioning from MediTech to EPIC. The primary clinical pharmacy surveillance software for MediTech is Sentri7, which was optimized throughout our corporation by a clinical pharmacy team. EPIC utilizes an embedded clinical pharmacy surveillance module. Our goal is to compare the clinical productivity of our department utilizing each system and identify any analytical shortcomings in the new software. Identified gaps will be addressed with the corporate information technology team to optimize the new software.

Methods

The number and type of clinical interventions will be collected over a three-month period. A pretransition month will establish our baseline performance. We will utilize a transition month to determine areas for improvement with the new electronic medical record system. A post-transition month will ultimately be compared to our baseline data once all possible upgrades are made to the new system. Data will be collected using analytical tools built into the software and statistical significance of findings will be determined using appropriate methods. Our primary endpoint will be the total number of clinical interventions documented by pharmacists. The data will be further categorized into types of interventions based on therapeutic class and relevant drug safety parameters. Additionally, the number of system-prompted interventions will be compared to the number of pharmacist-initiated interventions between the two systems. Results will be reported to the Quality Council and Pharmacy and Therapeutics Committee for future quality improvement purposes. Finally, pharmacist satisfaction will be determined using a survey designed to measure pharmacist perception of the new system.

Results

In progress, results will be described.

Conclusion

In progress.

Reed, JacQuese

Optimizing Patient Safety Event Reporting: Innovation in Surveillance Systems

Reed, JacQuese; Warren, Carley
HCA Healthcare, Nashville, TN

Background and Purpose

Medical errors are estimated to be the third leading cause of death in the United States. Patient safety event reporting systems are essential in hospitals for identifying safety events and quality issues. Traditionally, these systems depend on voluntary reporting by frontline staff, which can lead to underreporting and selection bias. To address this issue, trigger tools like the Institute for Healthcare Improvement (IHI) Global Trigger Tool have been introduced as a way to identify additional adverse events and enhance surveillance. This study aims to assess the effectiveness of auto-generated trigger tools when used alongside traditional voluntary reporting methods.

Methods

Medication event reports from 186 hospitals will be analyzed over a 3-month time period following the implementation of ten auto-generated triggers based on specific rules. These rules include bar code medication administration (BCMA) for reversal agents and established cutoff values for drug serum concentration levels. When these rules are triggered, a medication event report auto-generates in real time, including an auto-populated event description. Pharmacy leaders serve as the initial reviewers of these reports and assign them to unit-level leaders for further review based on the event's location. The primary outcome measure focuses on the adverse events reported after the implementation of auto-generated triggers. Secondary outcome measures include the frequency of medication errors reported, the types of medication errors identified, contributing factors to the medication errors, the locations where medication errors occurred, actions taken following the reporting of medication errors, and the categorization of medication errors by level of harm.

Results

Results are pending data analysis and will be described once completed.

Conclusions

Conclusions are pending data analysis and will be described once completed.

Renji, Nikita

Comparative Analysis of Antiretroviral Regimens and Demographic Factors in HIV Viral Load Suppression

Renji, Nikita [1,3], Underwood, Elizabeth[1], Smith, Forrest [2,] Douglass, Gabriella [1], and Cooper, Aritney [3]
[1]ARcare, Searcy, AR, [2]Harding University College of Pharmacy, Searcy, AR, [3] Infinity Care Solutions, Bentonville, AR

Background and Purpose

Adherence to antiretroviral therapy (ART) is critical for effective HIV viral load suppression, yet it is influenced by various clinical, behavioral, and social factors. The choice of ART regimen also plays a role, with single-tablet regimens (STRs) typically enhancing adherence due to their simplicity compared to multi-tablet regimens (MTRs). However, studies comparing STRs to once-daily MTRs have yielded mixed results regarding viral suppression outcomes. Comprehensive care that addresses mental health, substance use, and social support has been shown to improve adherence. Individualized ART regimens and ensuring accessibility are essential for optimizing treatment effectiveness.

This study aims to evaluate the impact of ART regimens and demographic factors on HIV viral load suppression. It will compare STRs and MTRs to determine their relative efficacy in suppressing viral load, while also considering demographic and socioeconomic factors to provide evidence-based recommendations for optimizing ART.

Methods

This retrospective observational study will use data from the ARcare electronic health record, collected from July 2023 to July 2024. Variables include patient demographics (age, race, ethnicity, gender), comorbid conditions (hepatitis B/C, sexually transmitted infections, Acquired Immune Deficiency Syndrome, hypertension, stroke, heart disease, diabetes, chronic kidney disease, osteoporosis), co-medications, HIV treatment regimens (single versus multiple pills), viral load suppression (measured three months post-treatment), and socioeconomic factors (employment status, insurance, and residential area). Inclusion criteria are HIV-positive patients on ART from July 2023 to July 2024 with at least one viral load measurement after three months, and available demographic, clinical, and socioeconomic data. Exclusion criteria include patients under 18, those with incomplete records, and those not on consistent ART or lost to follow-up within three months. The primary outcome is the effect of STRs versus MTRs on viral load suppression, with a secondary focus on demographic impacts.

Results

The results will compare viral load, comorbid conditions, patient demographics, and socioeconomic status between STR and MTR patients.

Conclusion

Conclusion will be presented after results are obtained.

Richardson, Edward

Effects of the implementation of pharmacogenomics (PGx) testing on the statin tolerability of Veterans within the VA Healthcare System

Richardson, Edward – Author; McMinn, Karmen – Co-Author; Johnson, Laura – Co-Author
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Background and Purpose

Statin therapy is a mainstay of guideline-approved therapy in patients with type-II diabetes mellitus, hyperlipidemia, and atherosclerotic cardiovascular disease risk reduction. Despite its benefits, statin therapy does carry the risk of Statin Associated Muscle Symptoms (SAMS). These adverse effects occur in approximately 10% of patients started on statin therapy and can lead to discontinuation or suboptimal dosing. We aimed to investigate the effects of current pharmacogenomics (PGx) testing procedures on clinical decision-making, and its impact on statin tolerability in Veterans.

Methods

This retrospective chart review evaluated Veterans who received PGx testing between 4 April 2024 and 30 September 2024 at a single Veteran's Affairs (VA) healthcare system. Veterans were included if they had adjustments or modifications to their statin therapy during the 3 month monitoring period. Veterans were excluded if they experienced mortality during the 3 month monitoring period, or if pertinent data was unable to be collected from reviewing the electronic medical record. The primary outcome was the percentage of Veterans tolerating their PGx-guided statin therapy after the 3 month follow-up period. The secondary outcomes included the difference in tolerability between different statin agents and dosage intensities.

Results

A total of 9 Veterans were included in the study. Five of the included Veterans (55.6%) had a reported SAMS documented prior to PGx testing. PGx testing resulted in changing 8 Veterans (88.9%) to an alternative statin. At the conclusion of the 3-month monitoring period following testing, all 9 Veterans (100%) tolerated their statin therapy with no documented SAMS in the electronic medical record.

Conclusion

This PGx testing is a tool to help clinicians ensure Veterans are started on the proper starting dose an statin choice to ensure better outcomes. PGx testing can be especially useful in Veterans who are being re-tried on a statin after previous failure due to SAMS or for initiating a statin in statin naïve patients. While this study had a very small sample size, the 100% statin tolerability seen following PGx testing is promising. Further studies with a larger patient population is warranted to support the use of PGx directed prescribing of statin medications in a Veteran population.

Rinks, Melissa

A Study of the Impact of an Outpatient Heart Failure Specialized Clinic on Clinical Outcomes

Rinks, Melissa[1,3]; Campbell, Jennifer[1,3]; Hoang, Kristine[1,3]; Armstrong, Drew[1,3]
Regional One Health, Memphis, TN[1]; University of Tennessee College of Medicine, Memphis, TN[2]; University of Tennessee College of Pharmacy, Memphis, TN[3]

Background and Purpose

In 2022, new heart failure guidelines were introduced emphasizing the use of four pillar guideline-directed medical therapy (GDMT) to reduce mortality and morbidity for patients with heart failure. Specialized cardiology services, including heart failure clinics, have shown promising outcomes with reduced hospitalizations and better clinical outcomes in improving patient care, as shown in the STRONG-HF trial and the PHARM-HF trial. The Heart Failure Clinic at Regional One Health was established to address the gap in optimizing GDMT after recent hospitalization. The clinic's comprehensive care model centers on the four pillars of GDMT while offering regular follow up, patient education, lifestyle counseling, and personalized treatment plans. The multidisciplinary team works together to manage symptoms, titrate medications, and ensure coordinated care. This study aims to assess the impact of the Heart Failure clinic on reducing hospital readmissions, improving clinical outcomes (change in ejection fraction and GDMT optimization scores), and enhancing the quality of life for heart failure patients (change in KCCQ-12 scores).

Methods

This project is a retrospective chart review of patients with heart failure and reduced ejection fraction at Regional One Health. A control group of patients discharged between June 2021 and June 2022 prior to the establishment of the clinic, and a treatment group of patients seen in the Heart Failure Clinic from July 2022 to July 2024 will be included. Data collected will cover demographics, GDMT optimization, heart failure etiology (nonischemic, ischemic, mixed, or unknown), history of concurrent heart conditions, renal dysfunction, ICD status, iron studies, KCCQ-12 scores, labs, vitals, LVEF from echocardiography, total Heart Failure clinic visits, missed appointments, relevant past medical history, social history, and 90-day readmissions.

Results/Conclusions

Results will be described.

Robinson, Jesse

Assessing De-escalation of Mucolytic Therapies in Patients on Cystic Fibrosis Transmembrane Conductance Regulator Modulator, Elexacaftor-Tezacaftor-Ivacaftor

Robinson, Jesse[1,2], Stoltz, Molly[2]
University of Tennessee Health Science Center College of Pharmacy, Memphis, TN[1]
Le Bonheur Children's Hospital, Memphis, TN[2]

Background and Purpose

ETI, a highly effective modulator, restores cystic fibrosis transmembrane conductance regulator (CFTR) protein function, improves mucociliary clearance, and reduces mucus accumulation and airway obstruction. Per the cystic fibrosis foundation (CFF), all patients 6 years of age and older are recommended to use both hypertonic saline and dornase alfa chronically for maintenance of lung health. The SIMPLIFY trial, published in 2022, evaluated individuals with cystic fibrosis (CF) with well-preserved pulmonary function on ETI. Results showed that discontinuing daily hypertonic saline or dornase alfa for 6 weeks did not result in clinically meaningful differences in pulmonary function when comparing with continuing treatment. Physicians at our institution have been hesitant to de-escalate mucolytic therapies due to the SIMPLIFY trials short observation period and minimal data in pediatric patients. Patients and caregivers are eager to discontinue therapies that are time consuming and costly if there is evidence to do so. The purpose of this study is to evaluate our CF patient population and assess the effects of de-escalating mucolytic therapies among those established on ETI.

Methods

This is an Institutional Review Board (IRB) approved, single center, retrospective study of Le Bonheur Children's Hospital Cystic Fibrosis Center patients between January 2023 to January 2024. Patients 6 years of age and older who were taking ETI for at least 6 months were included. Patients were excluded if they were unable to provide pulmonary function tests (PFTs) or were not taking any mucolytic therapies. Data was collected using the hospital's electronic health record. The primary outcome is the absolute change in ppFEV1 from baseline to month-6 and baseline to month-12 after de-escalation of mucolytics. The primary outcome of this study is the absolute change in ppFEV1 from baseline to month-6 and baseline to month-12 after de-escalation of mucolytics. Secondary outcomes include maintenance of BMI percentile, incidence of pulmonary exacerbations requiring antibiotic initiation, and number of hospital admissions for CF exacerbations after de-escalation.

Results

Results will be described.

Conclusions

Conclusions will be described.

Rubenstein, Isabella

Fosfomycin for Complicated Urinary Tract Infections (cUTI) in Males Caused by Extended Spectrum Beta-Lactamase Producing Enterobacterales (ESBL-EB)

Rubenstein, Isabella; Ryan, Tenley; Douglass, Dana; Hoover, Jonathan
Lt. Col. Luke Weathers Jr. VA Medical Center, Memphis, TN

Background and Purpose

With limited oral options for ESBL-EB cUTI's, increasing prevalence of ESBL-producing bacteria, and continued development of resistance, further research into the efficacy of fosfomycin is needed. Despite demonstrating potential for clinical and microbiological cure, 2024 IDSA Guidance on Treatment of Antimicrobial Resistant Gram-Negative Infections guidelines do not recommend fosfomycin for treatment of cUTI. The purpose of this study is to determine if oral fosfomycin is a viable treatment option for ESBL-EB pathogens causing cUTI by observing clinical failure and the impact of its use on 30-day admission/readmission rates.

Methods

This was a retrospective, observational, multicenter study of patients from VISN 9 treated for an ESBL-EB cUTI from July 2018 to July 2024. Patients included were males, $\geq$ 18 years of age receiving treatment for cUTI, with urine culture identified as ESBL-EB pathogen, and minimum of 7 days of adequate therapy. Patients excluded were diagnosed with pyelonephritis or prostatitis, concurrent bacteremia or other infection, or concomitant *Pseudomonas* grown with ESBL-EB. The primary objective is to compare the clinical failure of receiving more than one dose of fosfomycin for the treatment of ESBL-EB cUTI in males to the comparator group that includes carbapenems.

Results

Preliminary data review includes 49 courses of treatment with fosfomycin and 50 courses of treatment in the carbapenem group. ESBL positive urine cultures from patients included *Escherichia coli*, *Klebsiella pneumoniae*, *Proteus mirabilis*, and *Klebsiella oxytoca*. Further results and data analysis pending additional data collection.

Conclusions

Further data analysis is needed to compare outcomes between fosfomycin and alternative options such as carbapenems to determine if fosfomycin can be considered a viable treatment option. Confounding variables identified during data collection include patients receiving other antibiotics in addition to fosfomycin, presence of urinary catheters, and patients with recurrent cUTI's.

Ruiz, Carmela

The effect of prescribing metoprolol succinate versus carvedilol therapy on GDMT in heart failure with reduced ejection fraction

Ruiz, Carmela; Gust, William; Sullivan, Josh; Mark, Howell; Marler, Jacob
Lt. Col. Luke Weathers, Jr. Memphis Veterans Affairs Medical Center, Memphis, TN

Background/Purpose

Carvedilol and metoprolol succinate both have benefits when used to treat patients with heart failure with reduced ejection fraction (HFrEF) and are recommended as part of guideline-directed medical therapy (GDMT). Due to an additional mechanism of action, carvedilol may cause greater reductions in blood pressure, limiting the ability to titrate GDMT to target doses. The purpose of this study is to compare the tolerability of carvedilol and metoprolol succinate and the ability to reach target doses of GDMT in patients with HFrEF.

Methods

This is an Institutional Review Board approved retrospective, cohort study of adult patients treated at the Lt. Col. Luke Weathers, Jr. Memphis Veterans Affairs Medical Center from May 1st, 2020 to May 1st, 2025. Patients were included in the study if they were prescribed metoprolol succinate or carvedilol and had a diagnosis of HFrEF. Exclusion criteria included documented allergies to GDMT, inotropic support, an eGFR < 30 mL/min/1.73m^2, and cocaine abuse. Outcome data was collected in patients receiving beta-blocker therapy for at least 1 year following HFrEF diagnosis, with total follow up time of 2 years. The primary outcome was the number of GDMT medication classes the patient was taking at the end of the study period.

Results

To date, 55 patients in the metoprolol and 52 in the carvedilol group have been included. More patients in the carvedilol group were African American (76.9 % vs 58.2%; p=0.04), but no other differences were found in baseline characteristics. Overall average age was 66, baseline ejection fraction was 30%, serum creatinine was 1.2, and common comorbidities included hypertension (86.0%), coronary artery disease (58.9%), and diabetes (46.7%). Number of GDMT medication classes tolerated was similar (2.63 ± 0.97 vs 2.65 ± 0.97; p=0.9). Target beta-blocker dose attainment was higher in the carvedilol group (27% vs 7%; p=<0.01), as well at target dose of renin-angiotensin system inhibitors (48% vs 20%; p=<0.01); while target doses of other GDMT were similar. No differences were found for HFrEF readmissions, bradycardia or hypotension.

Conclusion

Data collection is ongoing, and preliminary results data indicate no impact of beta-blocker choice on GDMT.

Russell, Amanda

Impact of a Pharmacist-Led Lipid Management Service at a Hospital-Affiliated Heart and Vascular Clinic

Russell, Amanda; Reaves, Kaci; Taylor, Prisca
St. Bernards Medical Center, Jonesboro, AR

Background and Purpose

Various organizations have guidelines for managing blood cholesterol, particularly reducing low-density lipoprotein (LDL), to decrease atherosclerotic cardiovascular disease (ASCVD) risk. Pharmacist collaboration in chronic disease state management has proven effective in recent years. A new protocol for pharmacist management of lipids in select patients was implemented in August 2024 at a community hospital-affiliated clinic. This study aims to assess the impact of a new pharmacist-led lipid management service on the attainment of patients reaching their LDL goals.

Methods

This study is a retrospective, cohort study comparing patients who received lipid management from a pharmacist (intervention) compared to those who received usual care. Adult patients with peripheral vascular disease and a LDL of greater than or equal to 70 mg/dL are included in this study. Patients must have met with the pharmacist at least twice to be included in the intervention group. Exclusion criteria includes women who are pregnant or of child bearing age, patients in hospice care, or patients who transferred care to another provider and/or clinic. The primary outcome will be the percent of patients who reach their LDL goal in those that received lipid management services by a pharmacist compared to those who received usual care, during a 6-month study period. Secondary outcomes will be the number and type of interventions made for patients who received pharmacist-led lipid management along with comparing the mean percent change in LDL for patients in the pharmacist-led intervention group versus those who received usual care.

Results

This research is in progress pending data collection and analysis. Preliminary results will be described.

Conclusions

This research is in progress pending data collection and analysis. Preliminary conclusions will be described.

Scott, Whitney

Benzodiazepine Dosing for Active Seizures in the Emergency Department

Lisa Hayes, Lauren A. Kimmons, Kerri Jones
Methodist University Hospital—Memphis, TN

Background

Dose selection for benzodiazepines (BZD) in acute seizure is important, yet they are often underdosed due to concerns for oversedation or respiratory depression. This study aims to evaluate benzodiazepine dosing in active seizure by assessing the incidence of initial target dose.

Methods

This was a retrospective observational study of adult patients presenting to Methodist LeBonheur Hospitals who received an IV BZD (lorazepam or midazolam) for the management of convulsive seizures in the emergency department. Patients were excluded if BZD were administered prior to admission or different types or routes of BZD were used. The primary outcome was incidence of target BZD dose within the initial timeframe, which was defined as lorazepam 4 mg or midazolam 5 mg within 15 minutes from treatment initiation. Patients were assigned to the target or non-target group based on predefined criteria. Secondary outcomes evaluated between groups were incidence of rescue BZD therapy, progression to refractory seizure, and length of stay.

Results

A total of 1485 patients were screened, with 1400 patients excluded. Of the 85 patients included in analysis, majority were male, African American, 52 years old on average, had a pre-existing seizure disorder (85%), were prescribed two antiseizure medications prior to admission, and reported noncompliance with antiseizure medications (81%). For the primary outcome, 26 (31%) patients received a target BZD dose within 15 minutes from treatment initiation. Of those, 14 (54%) received lorazepam and 12 (46%) received midazolam. There was no difference in the administration of rescue BZD therapy (2 doses in target group vs 3 doses in non-target group, p=0.638), progression to refractory seizures (2 target group vs 1 non-target group, p=0.167), or length of stay between groups.

Conclusion

Underdosing of BZD in active seizures is prevalent as most of this study population did not receive a target dose. However, non-target dosing was not associated with increased incidence of rescue BZD therapy or progression to refractory seizures.

Shash, Tesnim

Identifying Barriers to Reducing Chronic Obstructive Pulmonary Disease Readmissions

Shash, Tesnim, Trezevant, May, Bostick, Anna, Milcic, Leigh, Gandy, Andreece, Martin, Carrigan.
Methodist Le Bonheur Hospital, Germantown, TN

Background

Chronic obstructive pulmonary disease (COPD) is a leading cause of hospitalization, morbidity, and mortality. In the United States, 22.6% of patients are readmitted within 30 days after an acute exacerbation of COPD (AECOPD), increasing mortality risk, hospital length of stay, and healthcare costs. The Centers for Medicare and Medicaid Services (CMS) penalize hospitals with high 30-day COPD readmission rates, yet effective strategies to reduce readmissions remain unclear. This study aimed to evaluate the 30-day and 90-day readmission rates among COPD patients at Methodist Le Bonheur Healthcare as the primary objective and identify key predictors contributing to readmissions for secondary objective.

Methods

This single-center retrospective chart review analyzed 285 adult patients admitted for COPD at Methodist Le Bonheur Healthcare between August 1, 2020, and August 31, 2024. Patients were identified using ICD-10 codes, and inclusion criteria include age ≥18 years with a COPD diagnosis on admission. Exclusion criteria include COVID-positive patients, hospice care, and same-day readmissions (<24 hours). The study assessed all-cause readmissions within 30- and 90-days post-discharge. Logistic regression analysis was used to identify risk factors for readmission and descriptive statistics analysis was used to summarize patient characteristics.

Results

Findings are pending further analysis at this time.

Conclusions

Understanding key predictors of COPD readmission can inform targeted interventions to reduce hospital readmissions.

Siebenmorgen, Mary Rose

Characterizing Telehealth Versus In-Person Clinical Pharmacy Consult Visits in a Rural Federally Qualified Health Center

Siebenmorgen, Mary Rose[1]; Underwood, Elizabeth[1]; Smith, Forrest[2]; Douglass, Gabriella[1]
ARcare, Searcy, AR[1]; Harding University College of Pharmacy, Searcy, AR[2]

Background and Purpose

Telehealth has become increasingly utilized for healthcare services, including pharmacy consultations. While previous studies have examined telehealth models, limited data exist on clinical pharmacy telehealth services. Those that have incorporated clinical pharmacy in a federally qualified health center (FQHC) have focused on specific disease states or their recent implementation of telehealth. This study analyzes the differences in patient demographics and encounter outcomes between telehealth and in-person initial pharmacy consultations within a rural FQHC.

Methods

This retrospective observational study included patients 18 years of age and older who completed an initial pharmacy consultation between January 1, 2024 and June 30, 2024, at any clinic location within the institution. Patients were excluded if it was not their initial pharmacy consultation or endpoints could not be obtained. The primary endpoint was patient demographics which included age, race, gender, insurance status, and employment status. Secondary endpoints included time between initial and follow-up pharmacy consultation, population size of clinic location, and medication therapy problems (MTPs) identified.

Results

The study included 544 patients, with 66.5% attending in-person visits and 33.5% using telehealth. Statistically significant differences were observed based on race, employment status, and clinic location. Regarding patient demographics, telehealth use was higher among African American patients (+23%, $p < 0.001$) and those refusing to verify employment status (+33%, $p < 0.001$). Unemployed individuals were more likely to attend in-person visits (+15%, $p = 0.036$). For secondary endpoints, telehealth use was higher in areas with populations of 2,000–9,999 and >50,000. In-person visits were 35% more likely in towns of 20,000–49,999 ($p < 0.001$). No significant differences were found regarding age, gender, or insurance status. Results for MTPs and time to follow-up is pending.

Conclusions

The findings of this study suggest there is a difference in patients receiving initial pharmacy consultations in-person compared to telehealth. African American patients and those who refused to verify employment status were more likely to use telehealth, while unemployed individuals favored in-person visits. Clinic location also influenced visit type. Further research is needed to explore the association between patient characteristics and pharmacy telehealth utilization within a rural FQHC.

Sifford, Claudia

The Association between Proton Pump Inhibitor Use and Clostridium Difficile Infection in a Rural Community Hospital

Sifford, Claudia[1], Turner, Shawn[1], and Smith, Forrest[2]
Unity Health – White County Medical Center, Searcy, AR[1]
Harding University College of Pharmacy, Searcy, AR[2]

Background and Purpose

This study aims to investigate the correlation between the use of proton pump inhibitors and the risk of clostridium difficile infection (CDI) in patients who present to the hospital with a first incidence of clostridium difficile infection. Results of this study will potentially help to improve the use of proton pump inhibitors (PPI) in a small rural hospital to help combat the risk of clostridium difficile infection.

Methods

This study will be a single-centered, retrospective chart review of electronic medical records from March 1, 2022, to August 30, 2024. Patients with a first diagnosis of CDI will be identified and evaluated for chronic use of a PPI. Patients to be included will be adults who are admitted to the hospital with a confirmed CDI, that have a past 3-month history of PPI use, and that have a first time CDI. Exclusion criteria include patients less than 18 years of age, recent antibiotic use, or if there is a history of CDI already documented in the chart. The primary outcome will assess if PPI use increases the risk of the first incidence of CDI. Secondary outcomes include identifying patients that are prescribed PPIs for stress ulcer prophylaxis in the critical care unit that are continued inpatient, comparing intravenous versus oral PPI use, correlation between PPIs and specific antibiotics, and concurrent use of laxatives and opioids.

Results

Data analysis is in progress. Results will be described.

Conclusions

Conclusions to be determined based upon results of data analysis.

Sims, McKenzie

Impact of Midodrine Starting Dose on Time to Vasopressor Discontinuation in Shock

Sims, McKenzie; Robertson, Ashley; Wiley, Tessa
Baptist Health Medical Center, Little Rock, Arkansas

Background and Purpose

Patients admitted to intensive care units (ICU) often require vasopressors to maintain normotension and can be difficult to wean, potentially leading to longer ICU stays. Midodrine has been used off-label for vasopressor-sparing hypotension in the ICU but according to the MIDAS trial, did not accelerate liberation from vasopressors when compared to placebo. However, midodrine is still used for vasopressor weaning but there is no evidence describing an appropriate starting dose. Therefore, the purpose of this study was to evaluate the safety, efficacy, and impact on the patient outcomes of the midodrine starting dose in patients with various shock states on vasopressors.

Methods

This was a single-center, retrospective cohort study comparing patients receiving midodrine at low dose (< 15 mg/day) or high dose (≥ 15 mg/day) and concomitant vasopressors. Patients in the ICU at Baptist Health Medical Center from January 31, 2021 to June 1, 2024 receiving both therapies for at least 24 hours were evaluated. The primary outcome was time to vasopressor discontinuation between the two groups. Secondary outcomes included ICU length of stay, hospital length of stay, in-hospital mortality, number of midodrine dose escalations, time to midodrine discontinuation, rebound hypotension, and percent change in total vasopressor requirements at 24 and 48 hours post-midodrine initiation.

Results

A total of 84 patients were included, 30 patients in the low dose group and 54 patients in the high dose group. The primary end-point showed a median of 96 hours (IQR 48-144) to vasopressor discontinuation in the high-dose group, as compared to 48 hours (IQR 24-162) in the low-dose group (p=0.458).Patients in the high-dose group exhibited higher predicted ICU morality (SAPS II score of 52.6 vs. 41.5, P=0.011), had a longer duration of vasopressors prior to midodrine initiation. There were no differences in secondary outcomes.

Conclusion

Among patients receiving vasopressors and midodrine concomitantly, the high dose (≥ 15 mg) group did not lead to a quicker time to vasopressor discontinuation when compared to the low dose (<15 mg) group.

Slaughter, Jared

Evaluation of Early Diuresis on Duration of Mechanical Ventilation in Critically Ill Patients

Slaughter, Jared, Storey, Cortney Ann, Moore, William Paul
TriStar Summit Medical Center, Hermitage TN

Background and Purpose

For patients undergoing mechanical ventilation, optimal fluid management strategies remain controversial. To date, there are no guidelines available related to the timing or indication of diuretics in mechanically ventilated patients. Early use of loop diuretics may reduce days of mechanical ventilation. Potential harms of increased diuresis in a mechanically ventilated patient includes worsening of already compromised lung function, hypotension, and electrolyte imbalances. The purpose of this study is to evaluate the benefit of initiating early diuretics within 72 hours post-mechanical ventilatory support.

Methods

In this retrospective cohort study, we analyzed data from patients requiring mechanical ventilation for at least 3 days within a 24-bed ICU between September 1, 2023 and September 30, 2024. The primary outcome was duration of mechanical ventilation. Secondary endpoints included evaluating in-hospital mortality, length of stay, and cumulative fluid balance.

Results

A total of 386 patients' medical records were retrieved from an online database, of whom 273 required less than 3 days of mechanical ventilatory support, presented in heart-failure exacerbation, or had a history of end-stage renal disease requiring dialysis were excluded from the analysis. Of the 113 mechanically ventilated patients included in our analyses, 35 (30.0%) patients received a diuretic within 72 hours after intubation, and 78 (69.0%) patients received later or no diuretics while mechanically ventilated. The mean duration of mechanical ventilation in patients receiving diuretics within 72 hours was 5.78 days, whereas patients that received late or no diuretics was 6.55 days (P=0.16). No significant differences were seen between the two groups regarding in-hospital mortality, length of stay, or cumulative fluid balance on day 3. Safety outcomes observed were similar, however acute kidney injury occurred in 60.0% patients receiving early diuretics and 34.6% in patients receiving late or no diuretics.

Conclusion

In this retrospective, single-site study, use of early diuretics did not significantly reduce the number of mechanical ventilation days for patients but was associated with a higher incidence of acute kidney injury.

Snider, Kelley

Evaluating Treatment Practices of Tracheal Aspirates in Critically Ill Children With or Without Ventilator-Associated Pneumonia

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Le Bonheur Children's Hospital, Memphis, TN
University of Tennessee Health Science Center, Memphis, TN_2

Background and Purpose

Ventilator associated pneumonia (VAP) is defined as infection of the lung occurring in a patient who has been assisted by mechanical ventilation within the past 48 hours. Ventilator associated pneumonia is the second most common hospital acquired infection in the intensive care unit and is the most common reason for empiric antibiotic use. It is standard practice that when patients present with initial infectious symptoms coupled with respiratory symptoms, cultures are then performed, and empiric antibiotics are started. However, there is a lack of uniform treatment practices when determining the need to treat positive tracheal aspirates based on their low sensitivity and specificity. Therefore, the purpose of this study is to evaluate institutional treatment practices with regards to respiratory cultures and initial symptoms in those that meet VAP criteria versus those who do not.

Methods

This is a single center, retrospective chart review of patients aged one to five years, admitted to an intensive care unit at a pediatric tertiary care referral center from January 2022 to August 2024. All patients with an artificial airway that received respiratory cultures via tracheal aspirate during admission were also included. We excluded any patient admitted to the neonatal intensive care unit or general medicine unit, admitted for community acquired or aspiration pneumonia, and any patient already on antibiotic therapy or received another positive culture at the time of tracheal aspirate collection. Data collected includes patient demographics, initial infectious symptoms and symptom improvement, tracheostomy or mechanical ventilator dependence, respiratory culture report, empiric antibiotic selection and duration and if additional antibiotic regimens were warranted during admission. The primary outcome of the study was to evaluate antimicrobial exposure in patients that meet criteria for VAP versus non-VAP. The secondary outcome of the study was to describe initial clinical symptoms and symptom resolution at 72 hours and 7 days. This study was IRB approved.

Results

Results will be described

Conclusions

Pending

Soto, Matthew

Impact of Adjunctive Dexmedetomidine Used for Alcohol Withdrawal Syndrome on Length of Stay in the Intensive Care Unit

Soto, Matthew; Harlan, Sarah; Ruckel, Cassidy; Baird, Mallory, and Powell, Meghan
Baptist Memorial Hospital – Memphis, TN

Background/Purpose

Alcohol use disorder (AUD) is a global health concern associated with significant morbidity and mortality. Benzodiazepines and phenobarbital are first-line treatment options for Alcohol Withdrawal Syndrome (AWS). Dexmedetomidine (DEX) is a guideline recommended adjunctive agent used to treat AWS. There is a paucity of evidence describing the impact of adjunctive DEX for AWS on intensive care unit (ICU) length of stay (LOS). The purpose of this study was to evaluate the impact of adjunctive DEX used in AWS on ICU LOS.

Methods

This study was a retrospective, single-center, medical chart review evaluating patients admitted to the ICU between September 1, 2022 to September 1, 2024. Patients aged 18-75 years who received symptom driven benzodiazepine or phenobarbital therapy per Clinical Institute Withdrawal Assessment (CIWA) were screened for inclusion. The primary outcome was ICU LOS. Secondary outcomes included reduction of CIWA score (24, 48, and 72 hours), incidence of hypotension and bradycardia, change in Richmond Agitation Sedation Scale (RASS) score (24, 48, and 72 hours), progression to mechanical ventilation, and need for rescue sedation. Primary and secondary objectives were compared using Wilcoxon Rank Sum for continuous variables and Chi Squared test for categorical variables.

Results

Forty-eight patients met inclusion criteria and 32 (67%) received adjunctive DEX for AWS. There was no significant difference in LOS between the groups (DEX: 7.3 days vs No DEX: 2.6 days, p=0.1). Hypotension occurred in (53% DEX vs 25% No DEX, p=0.064). Bradycardia occurred in (56% DEX and 38% no DEX, p=0.22). There were no significant differences in CIWA at baseline (p=0.39), 24 (p=0.34), 48 (p=0.31), and 72 (p=0.2) hours. There were no significant differences in RASS at baseline (p=0.75), 24 (p=0.73), 48 (p=0.79), and 72 (p=0.72) hours. There was a significant increase in need for mechanical ventilation (DEX: 56% vs No DEX: 6%, p=0.001) and sedation rescue therapy (DEX: 34% vs No DEX: 6%, p=0.034) in patients receiving DEX.

Conclusion

This study suggests that adjunctive DEX for AWS did not significantly impact ICU LOS. Patients receiving adjunctive DEX were more likely to be mechanically ventilated and require additional sedation rescue therapy.

Sprouse, Sloan

Evaluation of a Multimodal Pain Control Protocol in a Rural Inpatient Rehabilitation Setting

Sprouse, Sloan; Collier, Katie
North Mississippi Medical Center – Tupelo, MS

Background/Purpose

Opioids are commonly used in the management of acute post-surgery pain and during the rehabilitation process. However, opioids are the most common medications associated with serious harm during hospitalization. Patients who are exposed to opioids in-patient are more likely to use opioids long-term (90+ days after discharge), which increases their risk for developing an opioid use disorder. Multimodal pain control is the use of multiple analgesic medications, such as opioids, non-opioid, and non-pharmacologic interventions to decrease pain. The goal of multimodal pain control is to reduce the patient's pain while also reducing the overuse of opioids.

Methods

A retrospective chart review of electronic health records in our healthcare system was conducted to assess opioid use on the day before admission to and the day of discharge from the inpatient rehabilitation unit, both before and after implementation of the multimodal pain control protocol. The impact of the multimodal pain control protocol was assessed by comparing the difference in total MMEs (morphine milligram equivalents) between the two days. The secondary endpoint was the change in opioid prescribing habits at discharge. To be eligible for this study, patients had to be 18-years or older and admitted to the rehabilitation unit due to trauma (MVC, GSW. etc.), amputation, or orthopedic surgery. Descriptive statistics and independent t-testing were used to analyze the data.

Results

A total of 70 patients were included in the study [pre-protocol group n=35; post-protocol group n=35]. The reduction in MME per day from the day prior to admission to the rehabilitation unit to the day of discharge was 2.8% in the pre-protocol group and 42.16% in the post-protocol group [95% CI, 5.9 - 36.1; p = 0.007]. Before implementing the multimodal pain control protocol, 77.1% of patients were discharged with opioid prescriptions, compared to 68.6% after implementation [95% CI, -0.33 - 0.16; p = 0.517].

Conclusion

The implementation of the multimodal pain control protocol reduced both the total MME per day administered to patients and the number of patients prescribed opioids at discharge.

Stevens, Kayleigh

How Low Can We Go? De-escalation of Empiric Antibiotics in Afebrile Patients with Negative Cultures

Stevens, Kayleigh; Roemer, Kaleb; Watson, Troy; Greer, Nickie
HCA Healthcare Nashville, TN

Background and Purpose

Antibiotic de-escalation more commonly occurs when definitive microbiology results are available. When cultures are negative, continued use of broad-spectrum antibiotics may occur even when not indicated due to de-prescribing hesitancy or fear. Guidelines recommend de-escalating empiric antibiotics once definitive microbiology results are available; however, there is limited data and guidance surrounding de-escalation in patients with negative cultures. The purpose of this study is to analyze antibiotic management and associated clinical outcomes in various patient populations.

Methods

This Institutional Review Board-approved, multicenter, retrospective study included adult patients admitted to an HCA Healthcare hospital between January 2022 through January 2023 if they had at least one alert in a Pharmacy Clinical Surveillance Software for de-escalation assessment after meeting prespecified clinical criteria. The primary endpoint was to analyze outcomes in culture-negative patients who experienced antibiotic de-escalation. Secondary endpoints included the primary outcome stratified by subgroup populations to further analyze de-escalation practices. Antibiotic de-escalation was defined as a reduction in antimicrobial spectrum index score or antibiotic discontinuation. Statistical analysis tests used include Fisher's Exact Test, Kruskal-Wallis rank sum test, and Pearson's Chi-squared test.

Results

Out of 171,344 patients with negative cultures, 61,882 patients underwent de-escalation or discontinuation. A variety of de-escalation pathways were observed and categorized into three groups: (1) antibiotics de-escalated and then discontinued, (2) antibiotics de-escalated but never discontinued, and (3) antibiotics discontinued without prior de-escalation, with 8.9%, 23.4% and 67.7% patients in each group, respectively. In groups 1 and 2, de-escalation occurred in 61.0% and 59.1% of patients at 24 hours post-alert and in 93.1% and 89.5% of patients at 72 hours post-alert. A statistically significant difference was found between the groups for time of first alert, average spectrum score at time of first alert, hospital length of stay (LOS), antibiotic days of therapy, intensive care unit (ICU) admission during stay, ICU LOS, and escalation of care to the ICU.

Conclusions

The results from this study demonstrate variability in antibiotic de-prescribing practices for afebrile patients with negative cultures and the impact on generalized outcomes.

Stewart, Najwa

Phenobarbital Versus Lorazepam Pathway for Alcohol Withdrawal Syndrome in Critically Ill Patients

Stewart, Najwa; Tiemann, Maria; Krushinski, Kelsey; Powell, Meghan; Ruckel, Cassidy; Harlan, Sarah
Baptist Memorial Hospital – Memphis; Memphis, TN

Background/Purpose

Alcohol use disorder (AUD) is often associated with alcohol withdrawal syndrome (AWS) and requires emergent intervention to prevent life-threatening complications. Benzodiazepines are guideline recommended first-line therapy for AWS. Recent studies support the use of phenobarbital due to long half-life, low incidence of respiratory depression, and reduced ICU admission. The aim of this study is to evaluate the impact of a phenobarbital versus benzodiazepine-based protocol on ICU length of stay (LOS).

Methods

This single-center, retrospective chart review assessed patients admitted to the ICU between January 1, 2018 and June 30, 2024 who received AWS treatment according to a Clinical Institute Withdrawal Assessment (CIWA) score. Patients receiving phenobarbital (PHB) or benzodiazepine (BZD) therapy were included. Patients with severe hepatic dysfunction or missing CIWA score documentation were excluded. The primary outcome was ICU LOS. Secondary outcomes included CIWA score reduction (24, 48, and 72 hours), need for adjunctive sedation, and incidence of mechanical ventilation, seizure, and delirium tremens. Primary and secondary endpoints were compared using Chi-squared test for categorical data and Wilcoxon rank sum test for continuous data.

Results

Fifty-four patients met inclusion criteria. Of these, 13 (24.1 %) received the PHB pathway and 41 (75.9%) received the BZD pathway for AWS treatment. There was no significant difference in ICU LOS between groups (PHB: 3 days vs BZD: 2 days, p=0.57). There was no significant difference in CIWA score reduction at 24 (PHB: -0.8 vs BZD: -2.2, p=0.43), 48 (PHB: -8.75 vs BZD: -4.5, p=0.69), and 72 (PHB: -1.25 vs BZD: 0.3, p=0.6) hours. Patients treated with PHB experienced more seizure activity upon hospital presentation (38.5% vs 9.6%, p=0.016). There was no difference in incidence of mechanical ventilation (PHB: 15.4% vs BZD: 22%, p=0.6), use of rescue sedation (PHB: 53.8% vs BZD: 56.1%, p=0.89), or delirium tremens (PHB: 38.5% vs BZD: 48.8%, p=0.52).

Conclusion

In this study, ICU LOS and CIWA reduction were comparable in patients treated with PHB and BZD pathways. Patients treated with PHB were more likely to experience seizure activity, indicative of possibly more severe AWS symptoms. Further studies are needed to fully elucidate the role of PHB in AWS treatment.

Taylor, Nicholas

Evaluation of a Facility-Specific Empiric Antibiotic Prescribing Guidance Document in the Emergency Department

Taylor, Nicholas; Richardson, Katy Anna; McCay, Alix; McCrory, Kim
North Mississippi Medical Center | Tupelo, MS

Background/Purpose

Patients presenting with symptoms associated with urinary tract infections (UTIs) are common for emergency services departments (ESD) nationwide and can lead to hospital admissions. This facility recently implemented a pharmacist review of urine cultures in patients discharged from the ESD. Based on the data collected, an antibiotic prescribing guidance document was formulated to help guide empiric prescribing for UTIs. The objective of this study is to compare outcomes of the ESD culture reconciliation follow-up program before and after implementation of the empiric prescribing document.

Methods

This is a single-center retrospective chart review that compared three months pre-implementation versus post-implementation of the antibiotic prescribing guidance document for UTIs in the ESD. Patients were included if they were 18 years of age and older, followed by the outpatient culture reconciliation follow-up program, had a positive urine culture, and were prescribed antibiotics upon discharge from the ESD. Data collection included the causative organism, empiric antibiotic prescribed, treatment duration, whether therapy was given in accordance with empiric prescribing guidance document, 3-day and 30-day ESD revisit 30-day hospital readmission, and 30-day all-cause mortality.

Results

Of the 124 patients in the post-implementation group, E. coli accounted for 55.6% of infections versus 42.4% in the pre-implementation. Asymptomatic bacteriuria was identified and not treated in 21.8% post-implementation versus 13.6% pre-implementation. Correct total days of therapy once discharged was 12.4% post-implementation versus 10.5% pre-implementation. In the post-implementation phase, 33.1% of regimens were prescribed therapy according to the empiric prescribing document versus 24.2% in the pre-implementation phase. The 3-day revisit rate, 30-day revisit rate, 30-day admission, and 30-day all-cause mortality post-implementation vs pre-implementation are as follows, respectively: 2.4% versus 1.5%, 12.9% versus 21.2%, 7.14% versus 9%, and 0.8% versus 1.52%.

Conclusion

The implementation of an empiric guidance document for empiric UTI treatment in the ESD showed an improvement in initial drug selection, 30-day revisit, 30-day readmission, and 30-day all-cause mortality.

Thaw, Zoe

Evaluation of the Incidence of Hyperkalemia in Patients Taking Aldosterone Antagonists

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Background/Purpose

Aldosterone antagonists play important roles in the treatment of many disease states such as heart failure, resistant hypertension, and primary aldosteronism. Recently, certain medications in this class have also gained indications in chronic kidney disease with type 2 diabetes. Aldosterone antagonists work by blocking the mineralocorticoid receptors which result in decreased excretion of potassium and may lead to hyperkalemia. The objective of this study is to evaluate the incidence of hyperkalemia in patients taking aldosterone antagonists at Baptist Memorial Hospital-North Mississippi as well as collect information about other contributing factors surrounding the occurrence of hyperkalemia in this population.

Methods

This study will be conducted as a retrospective review of patients at Baptist Memorial Hospital - North Mississippi between September 2023 and September 2024 with aldosterone antagonists on their medication lists. Each chart will be evaluated for occurrence of hyperkalemia as signified by a potassium level of 5.1 mmol/L or higher. Further review will evaluate concurrent medications and renal function. Additional data will include the indication of the aldosterone antagonists, duration of therapy, and symptoms associated with hyperkalemia. The study has been approved for exemption by the Institutional Review Board at Baptist Memorial Health Care.

Results

Results are pending the completion of data analysis and will be described

Conclusion

Conclusions are pending the completion of data analysis and will be described

Thro, Jillian

Comparing Time to Therapeutic Anti-Xa Versus aPTT Levels Pre and Post Implementation of Anti-Xa Heparin Monitoring Protocol

Thro, Jillian - Author; Eldred, Sarah - Co-Author
University of Arkansas for Medical Sciences Medical Center, Little Rock, AR

Background/Purpose

Unfractionated heparin (UFH) is the mainstay of continuous anticoagulation in hospitalized patients experiencing thromboembolic conditions. Traditionally, UFH has been monitored by activated partial thromboplastin time (aPTT), but this comes with many limitations including less time in therapeutic range, more bleeding complications, and inappropriate heparin doses. Alternatively, several retrospective cohort studies have demonstrated that anti-Xa monitoring has been associated with faster time to therapeutic range, longer time within therapeutic range, and fewer dosage adjustments compared to aPTT monitoring. In 2019, the University of Arkansas for Medical Sciences Medical Center instituted a nursing-driven protocol to monitor UFH infusions using anti-Xa levels instead of aPTT monitoring. This project aims to evaluate the efficacy and safety of heparin using an anti-Xa monitoring protocol as compared to an aPTT monitoring protocol.

Methods

This is a single-center, retrospective chart review of adult patients diagnosed with a venous thromboembolism (VTE) or acute coronary syndrome (ACS) and treated with UFH at UAMS between January 1, 2017 and December 31, 2018 or January 1, 2020 and December 31, 2021. Patients were included if they were > 18 years old, received UFH infusions for at least 24 hours, documented ICD 10 codes indicating VTE or ACS, and documented aPTT or anti-Xa levels during the study period. Exclusion criteria included interruption in therapy for ≥ 10 hours, administration of a factor Xa inhibitor within the last 72 hours, baseline anti-Xa > 0.7 units/mL or aPTT > 98 seconds, and inadequate compliance with protocol adjustments. The primary outcome was time to goal anti-Xa (0.3 – 0.7 units/mL) or aPTT (70 – 110 seconds). Secondary outcomes included the proportion of patients that reached therapeutic goal within 24 hours, incidence of major bleeding, number of blood draws per patient, number of dose adjustments per patient, and incidence of initial anti-Xa level > 0.7 units/mL.

Results

Results to be described.

Conclusion

Conclusion to be described.

Tilley, Sophia

Thiamine Deficiency in Pediatric Hematology and Oncology Patients Starting on Parenteral Nutrition

Tilley, Sophia; Trone, Deni; Haidar, Cyrine; Greear, Jodie; Hurley, Caitlin
St. Jude Children's Research Hospital; Memphis, Tennessee

Background and Purpose

Thiamine serves as an important cofactor in metabolic processes including adenosine triphosphate production. Patients with cancer may be at a higher risk of thiamine deficiency due to an increase in thiamine utilization by cancer cells and a decrease in appetite resulting in lower oral intake of thiamine. Thiamine deficiency can result in life-threatening adverse effects such as refeeding syndrome, Wernicke encephalopathy, Beriberi, and lactic acidosis. The incidence of thiamine deficiency in pediatric patients with cancer is not well described. The primary objective is to define the incidence of thiamine deficiency in pediatric hematology and oncology patients starting parenteral nutrition. The secondary objectives are to review current thiamine replacement practices, describe the frequency of whole blood thiamine concentration re-assessment, and to identify the incidence of moderate and severe refeeding syndrome in patients starting parenteral nutrition.

Methods

This was a single institution, retrospective review of patients started on parenteral nutrition from October 1, 2022 to September 30, 2024. Patients who were 18 years of age or younger and had a whole blood thiamine concentration obtained two weeks before or two days after parenteral nutrition initiation were included in the analysis. Patients who received treatment doses of thiamine two weeks prior to the initiation of parenteral nutrition were excluded. Descriptive statistics were utilized to quantify the results.

Results

Out of the 242 new start TPNs, 119 had whole blood thiamine concentrations obtained and met the criteria for inclusion. The incidence of thiamine deficiency in pediatric hematology and oncology patients starting parenteral nutrition at St. Jude was 25.2%. In those with thiamine deficiency, 16.7% of patients never received thiamine replacement. The rate of thiamine concentration reassessment in those with thiamine deficiency was 66.7% within 6 weeks of the first assessment, and each resulted as normal. The total incidence of refeeding was 76.7% in those with thiamine deficiency and 61.8% in those without thiamine deficiency.

Conclusion

Thiamine concentration assessment and replacement practices vary across the institution. With 25.2% of patients presenting with thiamine deficiency at TPN initiation, and a large proportion of those patients developing refeeding, the need for standardized practices is evident.

Traylor, Leslie

Safety and efficacy of tenecteplase compared to alteplase for acute ischemic stroke

Traylor, Leslie; Bell, Ashley; Hopkins, Brandy
CHI St. Vincent Infirmary, Little Rock, AR

Background/Purpose

The treatment of acute ischemic stroke with thrombolytic therapy is beneficial, but not without risk. Alteplase, despite years of data supporting it, has a very specific method of administration that may contribute to a delay in therapy. In the setting of an ischemic stroke, seconds without perfusion can result in brain tissue death and lead to irreversible disability. Tenecteplase, with very recent FDA approval, is easier to administer and has more fibrin specificity that should, theoretically, lower the risk of bleeding typically associated with thrombolytic therapy. The goal of this study was to compare the safety and efficacy of tenecteplase to alteplase in a community hospital network.

Methods

This was a retrospective chart review that looked at patients 6 months prior to the transition to tenecteplase and 6 months after the transition to compare how effective and safe tenecteplase was when compared to alteplase. Patients were included in the study if they were older than 18 years of age, were treated with thrombolytic therapy within the appropriate timeline, and had a confirmed diagnosis of acute ischemic stroke. Patients were excluded from the study if they had a history of coagulopathy or clotting disorders, a history of hemorrhagic stroke within 3 months of administration of thrombolytic therapy, had an allergic reaction after use of thrombolytic therapy, had a contraindication to thrombolytic therapy, received thrombolytic therapy for myocardial infarction or pulmonary embolism, or had no documented NIHSS. The primary endpoint was the comparative efficacy as defined by a cognitive impairment before and after thrombolytic therapy utilizing the documentation of NIHSS scores. The secondary endpoints included safety as it related to bleeding, time to administration, length of stay, and blood pressure management before and after administration.

Results

Preliminary results show that NIHSS documentation may require extra education so that the policy is adequately followed. The preliminary results also show that there have been minimal adverse drug reactions reported or seen with lab changes.

Conclusion

To be described.

Vaden, Marshia

Maternal Prescription, Illicit or Recreational Substance Use and Infant Outcomes - An Observational Study

Vaden, Marshia[1]; Gaston, Kan[1,3]; Rana, Divya[1,2]; Pourcyrous, Massroor[1,2]
Regional One Health, Memphis, TN[1]; University of Tennessee College of Medicine, Memphis, TN[2]; University of Tennessee College of Pharmacy, Memphis, TN[3]

Background and Purpose

Maternal substance use during pregnancy can lead to a variety of complications in both mother and infant. Much of the research conducted has studied opioids in pregnancy, though maternal amphetamine use is increasing and data surrounding its use is lacking. Amphetamine use during pregnancy can cause hypertension, confusion, and weight loss in mothers, as well as placenta vasoconstriction, which can lead to reduced nutrients and oxygen flow to the placenta. These complications can lead to multiple maternal psychosocial risks as well as newborn neurobehavioral patterns of decreased arousal, increased stress, and a variety of other consequences. Many have advocated for universal drug screening of mothers at time of delivery; however, prescription and over-the-counter medications can produce false-positive drug screen results. These results can lead to legal consequences for mother and infant. The primary objective of this study was to determine the rates of false positive amphetamine results and identify which medications may be the cause.

Methods

This retrospective observational study included neonates and mothers who had amphetamine positive drug screens from the urine or umbilical cord at Regional One Health between March 1, 2019 and December 31, 2022. Electronic medical records were used to collect patient specific demographics, laboratory data, medications and duration of therapy.

Results

Results will be described.

Conclusions

Conclusions will be described.

Wagner, Brice

Bridging Healthcare Gaps in Rural Communities Through Pharmacist-Led Point-of-Care Testing

Wagner Brice[1,2]; Kirby, Justin[1]
Lipscomb University College of Pharmacy[1], Nashville, TN
Phipps Pharmacy[2], Huntingdon, TN

Background and Purpose

With an extensive history of self-advocacy, pharmacists have expanded their scope beyond dispensing into offering clinical services such as immunizations, health screenings, and medication therapy management. Recently, these services have evolved to include point-of-care testing (POCT), which enables pharmacists to perform rapid diagnostic tests and intervene promptly. Despite this progress, many rural "healthcare deserts" still face challenges, such as limited access to essential patient care services. A new service line offering POCT for self-presenting patients was implemented at a rural, independent community pharmacy, and a corresponding study was conducted to evaluate the feasibility and public perception of pharmacist-led POCT.

Methods

POCT participants were given exit surveys to gauge satisfaction, acceptance, and perceived professionalism of pharmacist-led testing. Survey responses were analyzed to identify barriers and factors contributing to successful implementation in rural settings.

Results

Thirty-six participants presented to the pharmacy's POCT clinic from November 2024 to March 2025 and completed exit surveys. Of these, thirty-five rated the level of service a nine or ten on a ten-point scale (97.2%), thirty-three said they would use the service again if they had the same symptoms (91.7%), and every patient equated the level of professionalism to what they would expect from a standard urgent care or provider's office.

Conclusions

Pharmacists are well-suited to fill a vital gap in rural healthcare by implementing POCT. This study aimed to evaluate the feasibility of POCT in rural community pharmacies, focusing on public perception and acceptance of these services. These results highlight the role pharmacists can play in addressing healthcare deserts by offering convenient, timely care and expanding community access to essential diagnostic services. Understanding patient perspectives and addressing concerns can further enhance the uptake of POCT in rural pharmacies, thus alleviating the strain on overburdened healthcare systems and reducing barriers to care. The positive feedback underscores the potential to expand and sustain POCT services as part of an integrated rural healthcare model. Future initiatives should focus on ongoing education, policy support, and collaboration with healthcare networks to optimize patient outcomes and foster stronger community trust in pharmacist-led healthcare delivery.

Walker, Katharyn

Induction Agent Dosing Trends in Patients of Weight Extremes Requiring Rapid Sequence Intubation in the Emergency Department

Walker, Katharyn; Bone, Rachel; Negrete, Ana
Methodist University Hospital

Background and Purpose

Weight extremes in patients presenting to the emergency department (ED) are increasingly common with one study finding that 38.6% of patients presenting to the ED are obese. With both overweight and underweight patients presenting frequently to the ED literature surrounding appropriate dosing strategies with either actual, ideal, or adjusted body weight is scarce, and questions remain whether selection of one has a meaningful clinical difference for patients. In the ED, doses are often rounded to whole vial sizes or easily manipulated volumes which can further cause dosing aberrations. Several emergent medications needed for the treatment of patients in the ED are weight based including medications for rapid sequence intubation (RSI), life threatening infections, status epilepticus, and acute pain. The purpose of this study is to determine the rate at which parenterally administered, weight-based induction medications for RSI are being prescribed and administered at appropriate doses (defined as within 10% of accepted weight-based dose) for patients who are underweight and obese in the ED.

Methods

This study is a multi-center, single-healthcare system, retrospective, observational study. Patients were using a report generated from Cerner Milennium®. This report included ED patients within the Methodist Le Bonheur Healthcare facilities, excluding Le Bonheur children's hospital, who underwent RSI between January 1, 2019 to December 31, 2023 using etomidate, ketamine, propofol, midazolam, succinylcholine, or rocuronium for rapid sequence intubation and documented to be underweight (BMI <18.5), obese (BMI 30-39.9) or extremely obese (BMI 40+).

Results and Conclusion

Eleven patients were included in this study for a total of twenty-two individual medication administrations: 9 etomidate, 2 ketamine, 4 rocuronium, and 7 succinylcholine. Two doses were administered to a patient with BMI <18.5, and 20 doses were administered to patients with BMI 30 or greater. 59% of doses were rounded to medication package size. 77% of doses were not within 10% of standard dosing range. No instances of multiple intubation attempts were identified. This data supports that it is common practice to round doses to package size for RSI in patients of weight extremes, even if it does not fall within 10% of standard weight-based dose.

Walsh, Annabelle

Creation and Implementation of a Pharmacist Driven Protocol for Management of Stress Ulcer Prophylaxis in Low-Risk Patients

Walsh, Annabelle; Busby, Renee; Entrekin, Tiffany; Hebert, Lynn; Martino, Lauren
Memorial Health System- Gulfport, MS

Background and Purpose

Current literature suggests no benefit to adding stress ulcer prophylaxis (SUP) in low-risk patient populations, yet many patients are started on a SUP during their hospital admission. Subsequently, patients are discharged on SUP with no intended purpose. This leads to increased risks associated with long-term use of SUP, and increased cost of admission for the patient. The purpose of this project is to implement a protocol that allows the clinical pharmacist to discontinue or convert SUP therapies in the inpatient setting to align with current best practices and evidence-based literature.

Methods

A clinical pharmacist-managed hospital protocol was developed to ensure safe, evidence-based utilization of SUP in high-risk patients while allowing for discontinuation of therapy in low-risk patient populations. Retrospective data from the hospital's medical record, hospital reporting system, and clinical surveillance platform was collected and analyzed. All clinical pharmacists were educated on appropriate indications for SUP. The protocol was piloted on the medical telemetry floor halls A and B. The clinical pharmacists conducted a detailed chart review and assessment of all patients who received SUP. If the patient met the criteria for low risk, then the SUP was evaluated for discontinuation. If discontinued, the pharmacist documented a clinical intervention in the patient's medical record. The pre- and post-data collected were evaluated to determine the appropriate usage of SUP in accordance with evidence-based practice and literature.

Results

The average monthly cost saved post-implementation was $429.61. The average monthly tasks reviewed by a pharmacist decreased by 37% post-implementation. The average monthly doses charted by nursing staff decreased by 32% post-implementation. There were approximately 7.5% duplicate SUP therapies pre-implementation, compared to only 3% duplicate SUP therapies post-implementation. All the patients initiated on dual SUP post-implementation were taking two different SUP medications outpatient.

Conclusions

Discontinuation of unnecessary SUP in low-risk patients decreases the overall cost for the hospital as well as the patient, the nursing staff workload, the pharmacy staff workload, and the potential for polypharmacy. With additional studies, discontinuing SUP therapies in patients could potentially decrease the long-term adverse effects associated with SUP: infection rates, electrolyte imbalances, bone fractures, and/or decline in kidney function.

Warren, Chloe

Bridging the Gap: The Impact of Community Pharmacists in Early Detection Screenings for Cognitive Impairment

Warren, Chloe and Heath, Rebecca
The University of Mississippi School of Pharmacy

Background and Purpose

As dementia's prevalence among older adults continues to rise, raising awareness and implementing early screenings are crucial to combat undiagnosed or late-stage dementia and cognitive decline. Pharmacists are the most accessible healthcare providers, with patients visiting them over eight times more frequently than their primary care physicians, highlighting a significant gap in care continuity. This study aims to evaluate the role of community pharmacists in screening and early identification of cognitive decline among at-risk patients.

Methods

This prospective, longitudinal study consists of patients over the age of 65 who present with a self-concern for cognitive decline. Excluded patients are those with a formal diagnosis of dementia or mild cognitive impairment. Eligible patients either provide self-identify risk factors for cognitive decline or present with objective indicators of risk. Patients identified for screening receive a HIPAA and consent form prior to completing the Montreal Cognitive Assessment (MoCA) screening for evaluation. The pharmacist discussed the results with the patient, and personalized optimal cognitive health recommendations will be made. Recommendations may include, referral to physician, education on medications that may worsen cognition, or medication adherence strategies. De-identified patient information will be securely stored when facilitating result tracking.

Results

Data collection is ongoing, while preliminary results are available for 4 subjects who have completed the study. The majority of patients were between ages 76-80 years old, while one patient was between ages 71-75. Cognitive decline was detected in two patients. The pharmacist provided education on potentially harmful medications in older adults to all 4 participants, enrolled 2 patients in Medication Synchronization services at the pharmacy, and sent 2 referrals to providers for further evaluation. Three participants completed the post-satisfaction survey, where they answered statements on a likert scale. All strongly agreed on feeling comfortable with the screening, recommending the service, and supporting insurance coverage for this service in the community pharmacy. When asked if they would pay for this service, results were equal among “highly disagree”, “neutral”, and “highly agree”.

Conclusion

Preliminary results indicate pharmacists may play a vital role in early detection of cognitive impairment and may be able to expand access to these services.

Weaver, Sydney

Safety of 3% Hypertonic Saline Continuous Infusion via Peripheral Intravenous Catheter

Weaver, Sydney - Author; Jenkins, Allison - Co-Author
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Background/Purpose

The administration of 3% hypertonic saline (HTS) is a common strategy to manage neurologic emergencies in which there is elevated intracranial pressure. Since this elevated pressure can lead to long-term neurologic damage or even death, it is imperative to rapidly reduce the pressure. As such, there may not be sufficient time to place a central venous catheter (CVC) prior to initiating a 3% HTS infusion. Although there is a small risk of extravasation and tissue damage, 3% HTS may be initiated via peripheral intravenous catheter (PIV) in these time-sensitive situations; however, there is still limited data regarding what duration of treatment via PIV is safe, and when a CVC should absolutely be required to continue therapy. The purpose of this study was to evaluate the safety of 3% continuous infusion HTS via PIV and determine when a CVC should be required to avoid serious complications of peripheral administration of HTS.

Methods

This study was a single-center, retrospective cohort chart review of adult patients diagnosed with a neurologic emergency requiring the administration of 3% HTS from January 1, 2023, to September 30, 2024. Patients were included if they were $\geq$ 18 years old and received 3% HTS as a continuous infusion via PIV for a neurologic emergency. Exclusion criteria included patients who received 3% HTS for non-neurologic emergencies (e.g. open abdomen, hyponatremia), the presence of a CVC during 3% HTS administration, and/or insufficient data in the electronic medical record (EMR). The primary outcome was incidence of infusion-related adverse events, which included extravasation, infiltration, phlebitis, and/or thrombophlebitis as noted in the EMR. Secondary outcomes included the duration of peripheral infusion, maximum infusion rate, and time to serum sodium > 145 mEq/L.

Results

Results to be described.

Conclusions

Conclusion to be described.

Welch, Jasiha

Implementation Barriers to Pharmacist-Led PrEP and PEP Prescribing

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Background and Purpose

Despite advancements in HIV prevention, disparities in pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) utilization persist, particularly among racial minorities, rural populations, and LGBTQ+ communities in the United States. Pharmacist-led PrEP and PEP prescribing has emerged as a promising strategy to enhance access to HIV prevention services, giving pharmacists' accessibility and established trust within communities. However, successful implementation remains inconsistent due to barriers such as insufficient training, reimbursement challenges, and workflow integration difficulties. This study aims to address these gaps by evaluating pharmacist integration of PrEP/PEP services, identifying key barriers to effective delivery, and assessing patient engagement and uptake. Findings will inform evidence-based strategies to optimize pharmacist-led HIV prevention initiatives and support policy development at both state and national levels.

Methods

This study will utilize a mixed-methods approach to evaluate pharmacist-led PrEP and PEP prescribing initiatives across 17 states. Semi-structured interviews with key stakeholders will capture practical perspectives on barriers and successful strategies. A standardized survey will assess workflow integration, training adequacy, patient engagement, and reimbursement challenges, with quantitative and qualitative analyses identifying key response patterns and nuanced insights. Additionally, a thematic analysis will synthesize qualitative data to identify common and state-specific obstacles, informing evidence-based recommendations to enhance HIV prevention efforts.

Results

Results will be described when available.

Conclusions

Conclusions will be described when available.

Wilber, Emily

Evaluating the Effect of Adding Dapagliflozin to Formulary on 30-Day Readmission Rates in Heart Failure Patients

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Background/Purpose

Heart Failure (HF) is a chronic progressive disease that has led to an increase in the number of 30-day readmission rates over the past years. Sodium-glucose cotransporter 2 (SGLT2) inhibitors, a part of guideline-directed medical therapy (GDMT), are beneficial in HF patients due to their cardiorenal protective properties. It is imperative to consider initiating appropriate GDMT during hospital stay to increase patient compliance and decrease readmission rates. The purpose of this study is to evaluate the effect of adding dapagliflozin, a SGLT2 inhibitor, to Maury Regional Medical Center's (MRMC) formulary on 30-day readmission rates in HF patients.

Methods

This is a retrospective chart review study of HF patients from July 2021 to June 2024. Patients who were on hospice care, expired during hospitalization, transferred to an outside facility, had an eGFR < 25 mL/minute/1.73m^2, were previously initiated on a SGLT2 inhibitor, or initiated on a SGLT2 inhibitor after hospital discharge were excluded. The primary outcome was 30-day readmission rates post-formulary in HF patients receiving dapagliflozin compared to those who did not receive dapagliflozin. The secondary outcomes included 30-day HF readmission rates pre-formulary versus post-formulary, cost assessments by case managers, and whether a SGLT2 inhibitor was filled at MRMC's outpatient pharmacy prior to discharge or at an outside pharmacy.

Results

The inclusion criteria were met by 100 patients. Baseline characteristics were similar with an average age of 70 years. The majority of patients received GDMT of beta-blockers and loop diuretics. The primary outcome of 30-day HF readmission rates post-formulary occurred in 0% of patients who received dapagliflozin compared to 7% of patients who did not receive dapagliflozin (relative risk, 0; 95% confidence interval [CI], -0.14 to 0.01; P=0.51). The secondary outcome of 30-day readmission rates occurred in 6% of patients in the post-formulary group compared to 14% of patients in the pre-formulary group (P=0.18) with no statistical significance in cost assessments (P=0.44) and which pharmacy was used at discharge (P=1).

Conclusion

Based on the timeframe and sample size of this study, it is evident that more research is warranted to fully evaluate and understand the role of dapagliflozin on HF readmission rates.

Wilkinson, Lauren

Evaluation of Proton Pump Inhibitor Associated Fractures in Elderly Patients

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Background and Purpose

Proton pump inhibitors (PPIs) are widely used to treat acid-related diseases such as gastroesophageal reflux disease. However, over the past years there has been concern of their overuse and their potential side effects. The American Geriatric Society Beers Criteria suggest that PPIs may be associated with an increased risk of bone loss and fractures, and the prescribing information suggests risk of fracture may be increased in patients receiving high doses and long-term PPI therapy. The objective of this study is to determine whether there is an increased risk of fractures associated with long-term PPIs in elderly patients.

Methods

This will be a single-center, case-control study that will identify patients 65 years and older with fractures on long-term PPIs, as well as without fractures as control. The following data will be collected: patient age, gender, ethnicity, social history such as alcohol and tobacco consumption, use of PPIs (type, dosage), and health conditions and medications associated with an increased risk of fragility. Patients with fractures will be identified through diagnoses codes. All data will be recorded without patient identifiers and maintained confidentially. The data obtained will be sent to a third party for statistical analysis.

Results

Results are not yet available, but will be described.

Conclusions

Conclusions will be described once results become available.

Yoby, Alexandria

Clinical Comparison of Ceftriaxone Combination Treatment with Azithromycin versus Doxycycline for Hospitalized Non-Critically Ill Patients with Community Acquired Pneumonia

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Background and Purpose

Community-acquired pneumonia (CAP) is a major cause of hospitalization and death in the United States. The 2019 Infectious Diseases Society of America (IDSA) Clinical Practice Guidelines for the Diagnosis and Treatment of CAP recommend either beta-lactam and macrolide combination therapy or fluoroquinolone monotherapy. While these recommendations are well-supported, IDSA recognizes a need for additional research for the beta-lactam and doxycycline combination. This study aimed to compare the clinical differences and mortality outcomes between ceftriaxone plus azithromycin versus ceftriaxone plus doxycycline for the treatment of CAP in non-critically ill hospitalized patients.

Methods

This was a single-center, retrospective cohort study identifying patients treated for CAP from January 1, 2018 through July 31, 2024 at Baptist Memorial Hospital-DeSoto. Adults admitted to non-ICU floors who received antibiotic therapy aligning with the 2019 IDSA guidelines within the first 48 hours of admission were included. The primary endpoint was all-cause inpatient and 30-day mortality. Secondary endpoints were development of laboratory-confirmed CDI during inpatient admission and within 30 days post-discharge, level of CDI risk associated with discharge antibiotics, length of hospital stay, and total days of antibiotic exposure. Statistical analysis was performed using chi-squared and Mann-Whitney U tests.

Results

200 patients were analyzed, including 100 patients in the azithromycin group and 100 patients in the doxycycline group. The primary outcome occurred in 1% of the azithromycin group (n=1) and 2% in the doxycycline group (n=2), with a p-value of 0.5607. 30-day mortality occurred in 5% of patients (n=5) in the azithromycin group and in 7% of patients (n=7) in the doxycycline group, with a p-value of 0.3521. The average duration of antibiotic therapy was 8.58 days in the azithromycin group and 8.94 days in the doxycycline group, with a p-value of 0.2041. The length of stay was 4.22 days in the azithromycin group and 5.43 days in the doxycycline group, with a p-value of 0.0096.

Conclusions

This study adds to the evidence supporting the use of combination therapy with a beta-lactam and doxycycline, as there was no difference between inpatient or 30-day mortality rates. However, length of stay appears to be longer in patients treated with doxycycline compared to azithromycin.

Zielinski, Benton

Benefits of Implementing an Enterprise-Wide Formulary Strategy in Outpatient Physician Clinics

Zielinski, Benton[1,2]; Dyer, Angela[1]; Watson, Troy[1]
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Background and Purpose

HCA Healthcare manages more than 1,500 Physician Services outpatient clinics across the United States. These clinics have used aspects of formulary management to control costs and increase provider access to necessary medications and other healthcare items. As the complexity of outpatient needs grow, other strategies are needed. To reduce at-risk purchasing and healthcare spending associated with formulary underutilization, HCA Healthcare is implementing a new process improvement strategy for physician-owned clinics. The purpose of this process improvement study is to evaluate the potential benefits and drawbacks of a new formulary strategy.

Methods

HCA Healthcare Physician Services outpatient clinics, excluding urgent care clinics, with at least one (1) year of ordering data from the primary supply chain vendor that fell under one (1) of the following three (3) categories: Pharmacy, MedSurg, and Laboratory will be included. Quality and clinical operations outcomes will be assessed from a per patient-spend standpoint to account for changes in patient volume. The primary outcome will be the change in monthly spend from the primary supply chain vendor in the different categories mentioned above from before and after this implementation. Secondary outcomes will include number of items on formulary, new formulary requests, and vendor utilization outside of the primary supply chain vendor.

Results

Full results pending. Preliminary results will be described.

Conclusions

Conclusions pending.