early in their hospitalization, half were considered appropriate based on our guideline. Quality improvement initiatives are needed to improve implementation of the network guideline to reduce the overuse of antibiotics for management of COVID-19. Additionally, procalcitonin may be a helpful tool for hospitalized veterans with COVID-19.

Funding: None

Disclosures: None

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship
Assessing the association between cefepime percentage free trough level and neurotoxicity
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Background: Cefepime has a known association with neurotoxicity due to its ability to cross the blood–brain barrier. The symptoms of neurotoxicity are highly variable. It has been postulated that cefepime neurotoxicity is associated with elevated levels of the drug. However, studies assessing for an association between serum drug level and the incidence of neurotoxicity have yet to establish a consistent threshold. We assessed serum cefepime levels and incidence of neurotoxicity to help develop a dosing strategy to minimize adverse effects. **Method:** In total, 32 inpatients admitted from January 2019 to November 2021 who received cefepime according to institutional standard dosing regimens for at least 72 hours were reviewed by infectious diseases pharmacists who obtained serum cefepime levels and performed pharmacokinetic analyses to obtain percentage free trough levels. Cefepime percentage free trough levels were defined as therapeutic if they were above the known minimum inhibitory concentration (MIC) of the treated organism and were <40 µg/mL. Patient charts were reviewed for clinical findings consistent with cefepime-induced neurotoxicity. Numerical and statistical analyses were performed to assess factors with a significant association with neurotoxicity. **Results:** Overall, 16 (47.1%) patients showed some evidence of neurotoxicity, 9 (56.3%) of whom had a likely alternate clinical cause of symptoms (Table 1). We did observe that patients with creatinine clearance <60 mL/min were more likely to have symptoms concerning for neurotoxicity. **Conclusions:** Cefepime percentage free trough levels were highly variable, and no association with neurotoxicity was observed. Patients with decreased creatinine clearance were significantly more likely to develop neurologic findings consistent with cefepime-induced neurotoxicity. Further study is needed to establish a relationship between cefepime pharmacokinetic values and incidence of neurotoxicity.

Funding: None

Disclosures: None

Table 1. Distribution of Neurotoxicity with Cefepime Percent Free Trough

CrCl (mL/min)		N= neurologic symptoms reported (median percent free trough, µg/mL)	N = likely alternate explanation for neurotoxicity	N = no neurotoxicity (median percent free trough, µg/mL)
>90	Subtherapeutic	0	0	0
	Therapeutic	4 (16.1)	1	7 (11.5)
	Supratherapeutic	2 (60.15)	2	3 (52.8)
60-90	Subtherapeutic	0	0	1 (1.8)
	Therapeutic	3 (2.6)	2	3 (21.4)
	Supratherapeutic	3 (67.6)	2	2 (76.9)
30-59	Subtherapeutic	0		0
	Therapeutic	1 (27.9)	1	0
	Supratherapeutic	0	0	0
≤30	Subtherapeutic	0	0	0
	Therapeutic	1 (35.4)	1	0
	Supratherapeutic	2 (78.4)	0	0

Table 2. Patient Characteristic and Cefepime Level Distribution

	Total patients (N = 32)	N = subtherapeutic (median percent free trough, µg/mL)	N = therapeutic (median percent free trough, µg/mL)	N = supratherapeutic (median percent free trough, µg/mL)
Age (years)				
≤40	10	0	6 (7.7)	4 (54.05)
41-64	10	0	8 (21.05)	2 (49.0)
≥65	12	1 (1.8)	5 (9.3)	6 (72.5)
Sex				
Male	16	0	11 (7.7)	5 (76.6)
Female	16	1 (1.8)	8 (19.8)	7 (53.6)
Weight (adjusted, kg)				
≤50	2	0	0	2 (78.4)
51-70	12	1 (1.8)	8 (22.95)	3 (53.6)
71-90	16	0	10 (9.6)	6 (54.05)
≥90	2	0	1 (38.3)	1 (67.6)
CrCl (mL/min)				
>90	16	0	11 (11.5)	5 (53.6)
60-90	12	1 (1.8)	6 (8.35)	5 (67.6)
30-59	1	0	1 (27.9)	0
≤30	3	0	1 (35.4)	2 (78.4)

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Antibiotic Stewardship
Implementing Leading antimicrobial stewardship practices in United States hospitals – A qualitative study
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Background: In May 2018, The Joint Commission, The Pew Charitable Trusts, and the CDC cosponsored a meeting of experts who identified 6 evidence-based leading practices that antimicrobial stewardship programs (ASPs) should be doing beyond having basic infrastructure for improving antibiotic prescribing. The Joint Commission Department of Research working with external experts in 2020 conducted a prevalence study to assess what proportion of Joint Commission-accredited hospitals had implemented the 6 leading practices identified (results presented at SHEA Spring 2021). In this qualitative study, we collected information about how hospitals implemented ASP leading practices to identify facilitators and barriers to implementation among diverse hospitals. **Methods:** We conducted in-depth telephone interviews with a subset of ASP leaders from hospitals that participated in the 2020 prevalence study. We used purposive sampling to select 30 hospitals from 288 hospitals based on leading practices implemented, hospital size, and system membership. An experienced qualitative researcher (M.K.) not previously affiliated with the Joint Commission interviewed all participants using a semistructured interview guide. The framework method of analysis was used to review and organize data. We used the constant comparative approach to ensure that factors were not missed. Each transcript was reviewed by at least 2 researchers who compared coded findings in group discussion sessions. Two researchers independently identified key factors and combined findings following discussion and review. We focused on super factors that are relevant to implementing multiple leading practices. **Results:** ASP leaders from 30 hospitals were interviewed. Participating hospitals were evenly distributed across hospital size (10 small, 10 medium, 10 large) and membership in a health system (16 system, 14 nonsystem). At least 14, (46.7%) interviewees had pharmacist in their title; 11 (36.7%) had pharmacist-antimicrobial stewardship; and 5 (16.6%) had other titles (eg, infection preventionist). Super factors included ASP team capacity, ID expertise, having a physician champion, relationships with clinicians and relevant departments, structure of electronic health records, adequate software, and information technology resources. Small and rural nonsystem hospitals often lacked