Texas Health Presbyterian Hospital[®] DALLAS

Abstract

INTRODUCTION: Inappropriate administration and prolonged duration of antibiotics in neonates increases morbidity and mortality in pediatric patients.¹ IDSA, Pediatric Infectious Disease Society of America, and Society of Epidemiology of America advocate for antimicrobial stewardship programs in pediatric patients.²

METHODS: In 2019, Texas Health Presbyterian Dallas (THD) developed guidelines for prophylactic antibiotic use in neonates and a pharmacy specific antibiotic monitoring dashboard. After education and implementation of antibiotic guidelines and monitoring dashboard, a retrospective chart review was performed. This retrospective chart review evaluated neonates and infants who were admitted to THD and who had an active order for ampicillin, nafcillin, gentamicin or vancomycin, both before and after the implementation of antibiotic use guidelines. The primary outcomes included the decrease in antibiotic days of therapy per 1000 patient-days and the number and types of pharmacist driven interventions.

RESULTS: A total of 243 patients were included in the study. There were 132 patients in the period before antibiotic use guideline introduction (preASP), and 111 patients in the period after antibiotic use guideline introduction (postASP). Overall neonatal and infant days of antibiotic therapy per 1000 patient-days decreased in the time period after the implementation of antibiotic use guidelines. In the preASP period, there were 253 antibiotic days of therapy per 1000 patient-days compared to 214 antibiotic days of therapy per 1000 patient-days in the postASP period (p = 0.0189). There were a total of 17 pharmacist-driven antibiotic interventions, with 14 of those aimed at decreasing duration of therapy.

CONCLUSION: The implementation of antimicrobial stewardship programs can help to decrease antibiotic days of therapy per 1000 patient-days in neonatal and infant patients. Pharmacist-driven interventions may help to drive adherence to antibiotic stewardship guidelines.

Objectives

To compare the number of antibiotic days of therapy per 1000 patient-days before and after the implementation of an antimicrobial stewardship program (ASP), and to quantify pharmacist driven interventions after the time implementation of ASP.

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Implementation and Impact of Antimicrobial Stewardship in a Neonatal Intensive Care Unit

Lilliana Gonzales, PharmD; Elain Simon, PharmD; Terri Smith, PharmD, Texas Health Presbyterian Hospital of Dallas, Dallas, TX; Texas Tech University Health Sciences Center, Dallas, TX

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nycin	5	12	0.5459					
	253	214	0.0189					



TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

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Study Critique

itations

Retrospective chart review

imited number of infection indications

Confounding of results due to incorrect infection classification engths

harmacists had a direct role in maintaining adherence to antibiotic uidelines

Antibiotic guidelines aided in the standardization of empiric antibiotic election

Conclusions

The implementation of an antimicrobial stewardship program in neonates and infants significantly reduced the overall duration of empiric antibiotic days of therapy per 1000 patient-days.

Pharmacists-driven antibiotic monitoring may further drive adherence to antibiotic stewardship efforts.

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