

Presentation Type:

Poster Presentation

Subject Category: Antibiotic Stewardship

Periprocedural Testing and Antimicrobial Prophylaxis for Ureteral Stent Removal: An Opportunity for Antimicrobial Stewardship

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Background: The American Urologic Association’s 2019 Best Practices Statement highlights the importance of procedural and host factors in optimizing antimicrobial prophylaxis for urologic procedures. For ureteral stent removal, a procedure considered low risk, the recommendation for prophylaxis is uncertain and is dependent primarily on patient factors. We examined preprocedural practices and outcomes for both low-risk and intermediate- to high-risk patients undergoing this procedure in a county hospital. **Methods:** A retrospective cohort study was performed on all patients who underwent stent removal from January to December 2019. Patients were classified as being low risk if they met the following criteria: age 48 hours within the previous 30 days, absence of external urinary catheters, no intermittent catheterization, absence of prosthetic cardiac valves, not pregnant, and not immunocompromised. All other patients were classified as intermediate to high risk. We assessed periprocedural urine testing, antimicrobial prophylaxis, and clinical outcomes. **Results:** Of 158 unique patients, 84 (53%) were clas-

Table. Periprocedural management and outcomes:

	All	Low risk patient	Intermediate-high risk patient
	158	84	74
Periprocedural management			
Urine dipstick on day of procedure	120 (76)	69 (82)	51 (69)
Nitrite positive	13 (11)	10 (14)	3 (6)
Urine culture within 30 days before procedure	97 (61)	46 (55)	51 (69)
Positive	38 (39)	10 (22)	28 (55)
Any antibiotic therapy within 24 hours before or after procedure	158 (100)	84 (100)	74 (100)
Antibiotic duration before procedure			
No dose	95 (60)	49 (58)	46 (62)
1 dose before	36 (23)	20 (24)	16 (22)
> 1 dose	27 (17)	15 (18)	12 (16)
Antibiotic duration after procedure			
No dose	51 (32)	28 (33)	23 (31)
1 dose after	97 (61)	51 (61)	46 (62)
> 1 dose	10 (6)	5 (6)	5 (7)
Outcomes			
Urine culture performed within 30 days after procedure	12 (8)	5 (6)	7 (9)
Positive urine culture within 30 days after procedure	5 (3)	0 (0)	5 (7)
Hospitalized for UTI within 30 days after procedure	1 (1)	0 (0)	1 (1)

N (%)

sified as low risk. As shown in Table 1, preprocedural urine cultures were performed in 55% of low-risk versus 69% of intermediate- to high-risk patients. For the patients for whom urine cultures were performed, cultures were positive in 22% of low-risk versus 55% of intermediate- to high-risk patients (p < .0001). All patients received antimicrobial prophylaxis, most often a single dose after the procedure. None of the low risk patients had a positive urine culture or hospitalization within 30 days post procedure. **Conclusions:** Overall, 53% of patients undergoing stent removal were considered low-risk hosts, yet 100% of patients received antimicrobial prophylaxis. Future studies are needed to evaluate interventions to reduce unnecessary antimicrobial prophylaxis and standardize preprocedural testing in low-risk patients undergoing stent removal.

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Promoting Antimicrobial Stewardship Education Among Pediatricians Through a Maintenance of Certification Part 4 Quality Improvement Project

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Background: The rise of antimicrobial resistance has made it critical for clinicians to understand antimicrobial stewardship principles. We sought to determine whether the opportunity to participate in an American Board of Pediatrics Maintenance of Certification Part 4 (MOC4) quality improvement (QI) project would engage pediatricians and improve their knowledge about antimicrobial stewardship. **Methods:** In August 2019, a new clinical algorithm for acute appendicitis, spearheaded by the antimicrobial stewardship program (ASP), was implemented at UCSF Benioff Children’s Hospital Oakland to standardize care and optimize antimicrobial use. Medical staff were invited to participate in a QI project evaluating the impact of this algorithm. Data were collected for the 2 quarters preceding implementation (baseline), for the quarter of implementation (transition period), and for the quarter after implementation. Participants were offered MOC4 credit for reviewing these 3 cycles of data and associated materials highlighting information about antimicrobial stewardship. An initial survey was given to participants to assess their baseline knowledge via 4 questions about antimicrobial use in surgical patients (Table 1). At the conclusion of the QI project, another survey was conducted to reassess participant knowledge and to evaluate overall satisfaction with the project. **Results:** In total, 150 clinicians completed the initial survey. Of these, 44% were general pediatricians and 56% were pediatric subspecialists. Based on years out of training, their levels of experience varied: >20 years in 24%, 11–20 years in 32.7%, 0–10 years in 34.7%, and currently in training in 8.7%. Of the 150 initial participants, 133 (89%) completed the QI project and the second survey.

Table 1. Survey questions to assess knowledge about antimicrobial use in surgical patients

Question	Pre-Intervention (N = 150)	Post-Intervention (N = 133)
Antibiotic prophylaxis is recommended for all surgical procedures to reduce the risk of surgical site infection (Correct answer: False)	61.33%	50.38%
Within what time window prior to surgical incision should preoperative antibiotic prophylaxis be started in order to optimize tissue level (Correct answer: Within 1 hour before incision)	56%	93.23%
How long should postoperative antibiotic prophylaxis be continued? (Correct answer: No more than 24 hours)	77.33%	90.23%
Extending the duration of antibiotics is usually beneficial for the patient. (Correct answer: False)	95.33%	97.74%

Between surveys, there was significant improvement in knowledge about the appropriate timing and duration of surgical antibiotic prophylaxis (Table 1). Moreover, 88% of participants responded that the QI project was extremely effective in helping them learn about antimicrobial stewardship principles and about ASP interventions. **Conclusions:** Participation in this MOC4 QI project resulted in significant improvement in knowledge about antimicrobial use in surgical patients, and the activity was perceived as a highly effective way to learn about antimicrobial stewardship. QI projects that leverage MOC4 credit can be a powerful tool for engaging pediatricians and disseminating education about antimicrobial stewardship.

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