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## **INCIDENCE OF PERIOPERATIVE URINARY TRACT INFECTION AFTER SINGLE-DOSE ANTIBIOTIC PROPHYLAXIS FOR MIDURETHRAL SYNTHETIC SLING**

### Hypothesis / aims of study

A recent Best Practice Statement published by the American Urological Association (AUA) recommends that antibiotic therapy in patients undergoing midurethral synthetic slings should be 24 hours or less. Subjects at our institution are routinely administered a single-dose of intravenous antibiotics prior to sling surgery. We prospectively evaluated urinary tract infection (UTI) rates and risk factors for UTI in subjects undergoing midurethral synthetic sling surgery who receive single-dose antibiotic therapy.

### Study design, materials and methods

Subjects who were undergoing midurethral synthetic slings for stress or mixed urinary incontinence were prospectively included and received a single dose of an intravenous antibiotic in accordance with the AUA Best Practice Statement. The majority of subjects received 1 or 2 grams of intravenous cefazolin within one hour prior to incision. Subjects with a documented allergy to penicillin or cephalosporins, were administered either intravenous ciprofloxacin, or intravenous clindamycin and gentamicin, in accordance with the aforementioned AUA Best Practice Statement. Subjects requiring additional procedures for prolapse were excluded. Baseline characteristics, preoperative and postoperative post-void residual (PVR) were documented. Subjects were contacted within the first week of surgery, and seen in the office at 1 month where a urinalysis was performed, and urine culture sent if subjects were symptomatic.

### Results

A total of 101 subjects underwent midurethral synthetic sling surgery and received a single dose of intravenous antibiotics. Overall, six (5.9%) subjects developed a UTI within the first month of surgery. When compared to subjects without infection, patients who developed a UTI were more likely to have elevated PVR at the preoperative office visit (62.2mL vs. 26.8mL,  $p = 0.004$ ).

### Interpretation of results

Our prospective trial using a single-dose of intravenous antibiotic prior to midurethral synthetic sling surgery demonstrated low rates of postoperative UTI within the first month after surgery. Those having UTI were more likely to have a higher preoperative PVR. In our patient population antibiotics alone can lead to vaginal yeast infections and other associated complications. Furthermore, overuse of antibiotics can lead over time to the development of resistant microorganisms, which in turn, can cause significant morbidity and possibly mortality.

### Concluding message

Our study has demonstrated that the rate of perioperative UTI after midurethral synthetic sling surgery is low. Patients with an elevated preoperative PVR may be at an increased risk of developing a UTI. Single-dose antibiotic administration is safe and effective at preventing perioperative UTI in subjects undergoing midurethral synthetic sling surgery. Future practice guidelines may consider limiting antibiotic use to a single-dose, so complications from antibiotics themselves may be further reduced.

### References

1. Wolf JS Jr, Bennett CJ, Dmochowski RR et al: Best practice policy statement on urologic surgery antimicrobial prophylaxis. Urologic Surgery Antimicrobial Prophylaxis Best Practice Policy Panel. J Urol 2008; 179: 1379-90.

<b>Specify source of funding or grant</b>	<b>None</b>
<b>Is this a clinical trial?</b>	<b>No</b>
<b>What were the subjects in the study?</b>	<b>HUMAN</b>
<b>Was this study approved by an ethics committee?</b>	<b>Yes</b>
<b>Specify Name of Ethics Committee</b>	<b>Institutional Review Board of the Cleveland Clinic Foundation</b>
<b>Was the Declaration of Helsinki followed?</b>	<b>Yes</b>
<b>Was informed consent obtained from the patients?</b>	<b>Yes</b>