

Antimicrobial Stewardship & Urethral Catheterization

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The variability of published results and the risk for antimicrobial resistance and ascending infection argue against empiric therapy.⁸

In the Literature

Cooper ES, Lasley E, Daniels JB, Chew DJ. Incidence of bacteriuria at presentation and resulting from urinary catheterization in feline urethral obstruction. *J Vet Emerg Crit Care (San Antonio)*. 2019;29(5):472-477.

FROM THE PAGE ...

Despite advances in preventive care, urethral obstruction continues to be a common, life-threatening problem in cats. The increase in evidence, however, is helping refine protocols for fluid administration, urinary catheter care, and adjunct medications.¹⁻⁶

The decision to treat cats with antimicrobials is one of the many dilemmas associated with management of feline lower urinary tract disease (FLUTD).⁷ Bacterial UTIs in adult cats and cats that have signs of FLUTD are rare; older cats and cats with comorbidities (eg, urinary incontinence, chronic kidney disease, hyperthyroidism, diabetes mellitus) have an increased risk for UTIs. Although urethral catheterization in male cats is a routine, sterile procedure, catheters can easily become contaminated, particularly in emergent, obstructed cases. Many clinicians believe that urethral catheterization and signs of FLUTD justify empiric antimicrobial therapy, and others use antimicrobials to prevent infection during indwelling catheterization; however, the variability of published results and the risk for antimicrobial resistance and ascending infection argue against empiric therapy.⁸ Overuse of antimicrobials in veterinary patients contributes to unnecessary costs, multidrug-resistant infections, and public health concerns.⁸

In this study, quantitative urine cultures were performed in 34 cats presented for urethral obstruction. Precatheterization samples were obtained by decompressive

cystocentesis prior to urethral catheterization; samples for daily and final urine cultures were collected through a cleaned catheter port or by cystocentesis if the catheter was no longer in place. All procedures were performed using standardized, sterile protocols.

None of the 34 precatheterization samples yielded growth. Of the 31 cats that survived to catheter removal and discharge, 4 were positive for bacterial growth after 24 hours of indwelling catheterization. Bacterial growth included *Streptococcus* spp, common skin and genital contaminants. It is unclear whether these 4 cats ultimately received antimicrobial therapy; the authors did note that urinary catheters were not removed and that the same bacteria were isolated in subsequent samples obtained 48 hours or later. Duration of catheterization was not associated with positive urine culture results.

The results of this study are consistent with previous reports^{9,10} and support current recommendations regarding management of bacteriuria in animals that have subclinical bacteriuria or urinary catheters in place.⁸ Considering the rare and possibly transient nature of bacterial contamination in catheterized patients, antimicrobial therapy should be withheld until the catheter has been removed and the cat is voiding normally. To ensure appropriate antimicrobial stewardship, restricting antimicrobial therapy to patients with persistent infections and/or those demonstrating clinical signs is advised.

RELATED ARTICLE

For more on urethral catheterization, see **Urinary Catheter Placement in Dogs** on page 62.

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** Urine culture is unlikely to be diagnostically useful prior to catheterization in patients with first-time or rare obstructive episodes.
- 2** Strict aseptic technique should be followed as much as possible for urethral catheterization.
- 3** Antimicrobials should not be administered to cats that have urethral obstruction or indwelling urinary catheters unless fever, discolored urine, or other signs of active infection develop.
- 4** Repeat urine cultures should generally be performed only if signs of FLUTD appear after catheter removal.

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