

Feline Urinary Tract Infection: An Update

Avadhut Ramesh Ghutukade*, Brejesh Singh, Devendra Gupta**, Amita Tiwari**,
Sashi Pradhan***, Ishita Bais*, Piyush Singh***

Department of Veterinary Medicine, C.V.Sc & AH, NDVSU, Jabalpur

*PG scholar; **Professor; ***Associate Professor

Corresponding Mail: argghutukade@gmail.com

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Introduction

Feline urinary tract infection (UTI) refers to infection of the urinary tract, most commonly involving the urinary bladder. However, in cats, bacterial UTI is less common than many owners assume.

Many cats presenting with urinary signs actually have feline lower urinary tract disease (FLUTD) due to conditions such as feline idiopathic cystitis, urinary stones, urethral plugs, or urethral obstruction, rather than a bacterial infection.

True bacterial UTI is more likely in older cats and cats with underlying diseases such as chronic kidney disease, diabetes mellitus, or hyperthyroidism.

Why is it Important?

- Urinary disease can cause significant pain and distress.
- Cats may develop inappropriate urination outside the litter box.
- Infection can sometimes ascend from the bladder to the kidneys and cause pyelonephritis.
- Male cats are at particular risk of urethral obstruction, which is a life-threatening emergency.
- Repeated or inappropriate antibiotic treatment can contribute to antimicrobial resistance.

How Does Urinary Infection Occur?

Bacteria usually enter the urinary tract through the urethra and multiply in the bladder.

Common bacterial organisms include:

- *Escherichia coli*
- *Staphylococcus spp.*
- *Streptococcus spp.*
- *Enterococcus spp.*
- *Proteus spp.*

However, the bacterial organism should ideally be identified by urine culture, rather than assuming the cause.

Risk Factors:

- Older age
- Female sex
- Diabetes mellitus
- Chronic kidney disease
- Hyperthyroidism
- Urinary stones
- Structural abnormalities of the urinary tract
- Previous urinary catheterization
- Immunosuppression
- Reduced water intake

Main Clinical Signs

Frequent urination + Straining + Blood in urine = Urinary disease should be suspected

Cats may show the following signs:

- Frequent attempts to urinate
- Straining while urinating
- Passing only small quantities of urine
- Blood in urine
- Pain or discomfort during urination
- Excessive licking of the genital region
- Urinating outside the litter box
- Restlessness or vocalization
- Strong-smelling urine in some cases
- Reduced appetite
- Lethargy



Emergency Signs

URGENT MEDICAL WARNING:

If a cat repeatedly goes to the litter box but produces little or no urine, especially a male cat, treat it as an emergency!

Urethral obstruction can rapidly cause: Urinary obstruction → Accumulation of toxins → Electrolyte disturbances → Cardiac abnormalities → Kidney injury → Death

Diagnosis

Diagnosis should not be based only on clinical signs.

Urinalysis

Urine examination can detect: Blood, White blood cells, Protein, Glucose, Bacteria, Crystals, and Urine concentration.

Urine Culture and Antimicrobial Susceptibility Testing

This is particularly important when bacterial UTI is suspected, recurrent infection is present, or treatment failure occurs. It helps determine which organism is present and which antibiotic is likely to be effective.

Blood Investigations

Depending on the case, the following may be evaluated: Complete blood count, Serum creatinine, Blood urea nitrogen, Electrolytes, and Blood glucose.

Imaging

Ultrasonography or radiography may be required to identify: Urinary stones, Bladder abnormalities, Kidney abnormalities, Obstruction, and Other underlying causes.

Treatment

Treatment should be directed at the underlying cause. If bacterial UTI is confirmed or strongly suspected:

- Appropriate antimicrobial therapy should be selected, preferably based on culture and susceptibility results.
- Adequate water intake should be encouraged.
- Pain should be appropriately controlled.
- Underlying diseases such as diabetes mellitus or chronic kidney disease should be managed.
- Cats with urinary stones may require dietary management or surgical intervention depending on the stone type and clinical situation.



Important Note on Antibiotics

Do not give antibiotics to every cat showing urinary signs. Many cats with FLUTD have non-bacterial conditions, particularly feline idiopathic cystitis. Unnecessary antibiotics can contribute to antimicrobial resistance and may not improve the condition.

Prevention

Good urinary health starts with good hydration and appropriate management:

- Provide multiple sources of fresh water.
- Encourage water intake, including the use of wet food when appropriate.
- Keep litter boxes clean.
- Provide an adequate number of litter boxes.
- Reduce environmental stress.
- Avoid sudden dietary changes.
- Maintain an appropriate body weight.
- Monitor cats with chronic diseases regularly.
- Seek veterinary attention early when urinary abnormalities appear.

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