

Bacterial Urinary Tract Infection (UTI)

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What is Urinary Tract Infection (UTI)?

A urinary tract infection (UTI) refers usually to a bacterial infection of any or all parts of the urinary tract, but most commonly involves the urinary bladder (called bacterial cystitis). A UTI is common in dogs, especially females. Urinary tract infections are uncommon in cats less than 10 years of age. However, cats more than 10 years of age have a higher risk for UTI, which is often associated with other diseases (especially chronic kidney disease).

Two things must happen for a bacterial UTI to occur:

1. A break, either temporary or permanent, in the animal's defenses
2. Bacteria must migrate into the urinary tract, catch hold, and multiply

The UTI may or may not be associated with symptoms.

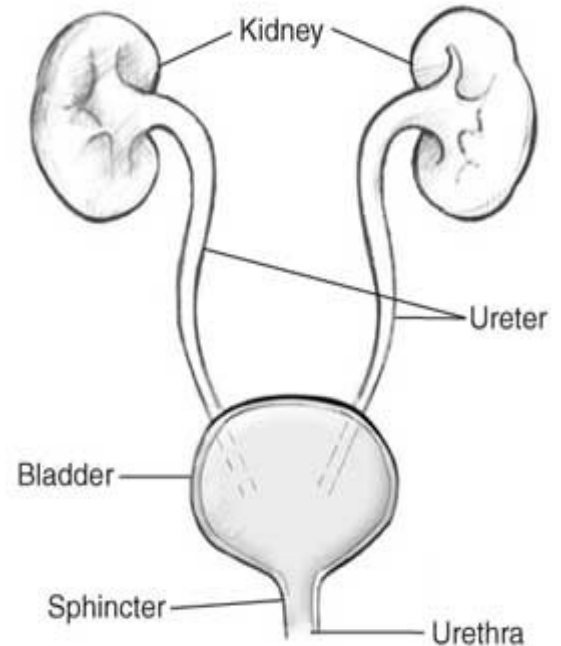
Symptoms

Symptoms of a bacterial UTI may or may not be present and are dependent on which part or parts of the urinary system are infected. The urinary bladder is most often infected, in which case one often observes signs of urgency and frequent urination (pollakiuria). Other symptoms may include blood in urine (hematuria), straining to urinate (stranguria), foul-smelling urine, urination in inappropriate places, inability to hold urine, and urinating small volumes or not passing any urine while posturing to urinate.

Less commonly, a bacterial UTI may involve one or both kidneys. Again, obvious problems may not be present. When clinical signs are present they may include fever, abdominal pain, inappetence, lethargy, blood in urine, or vomiting.

In reproductively intact dogs and cats, the infection may also involve parts of the genital system (uterus in females or prostate in males) and clinical signs may relate to the infection in these locations.

These described symptoms do not always mean that a UTI is present. All of these problems may occur because of diseases other than a UTI. For example, many cats less than 10 years of age do not have a UTI but rather have sterile inflammation of the bladder (sterile cystitis) or urinary stones. The symptoms observed are the same as those seen with a UTI. The presence of blood in urine does not always mean that a UTI is present.



Urinary Tract Infection (UTI) Continued...

Diagnosis

To diagnose a UTI, your veterinarian should collect a sterile urine sample from your pet. The best method to collect urine is by a technique called cystocentesis, during which a needle is inserted through the body wall into the bladder and urine is removed by a syringe. This technique is very safe and painless to your pet. Free catch urine samples or samples obtained from the floor or office examination table are invariably contaminated samples and not suitable for evaluation to determine infection.

Your veterinarian will analyze this urine sample (urinalysis) and examine a small amount under a microscope. If either or both bacteria or increased numbers of white blood cells (WBC's) are present, your veterinarian will suggest performing a urine culture. The presence of white blood cells means that inflammation is present but does not necessarily mean a UTI is present. Likewise, in an animal whose immune system is compromised or having highly diluted urine, a UTI may be present, but the urinalysis may not reveal white blood cells or bacteria. A urine culture is the best method for confirming a UTI is present.

A urine culture involves sending a small part of the collected urine to a laboratory that will try to grow the bacteria. If no bacteria grow, then a UTI is unlikely to be present. If bacteria grow, then the organism will be identified and antimicrobial susceptibility will be performed by the laboratory. Antimicrobial susceptibility testing usually takes 2-5 days for completion.

In some animals, additional testing may need to be done, such as blood work or imaging studies (radiographs or ultrasound), because a bacterial UTI may occur as a result of or in combination with other diseases (e.g., bladder stones, chronic kidney disease, feline leukemia virus).

Treatment

Antibiotics are prescribed to treat bacterial UTI's. How long antibiotics need to be given to your dog or cat depends on several factors, including whether it is a dog or cat, the age of the animal, whether this is a first time UTI or a recurrence of a UTI, what the bacterial organism is, and what antibiotics it is sensitive to, and if complicating factors are associated with the UTI.

A simple (or uncomplicated UTI) occurs primarily in spayed female dogs and is not associated with systemic illness or complicating diseases. In this case, antibiotics are typically given for 7 to 14 days.

A complicated UTI occurs when there are one or more complicating diseases or if the UTI is recurrent. Remember, that young cats rarely have a UTI and in older cats UTI is usually complicated by chronic kidney disease. Another example of a complicating disease is diabetes mellitus or hyperadrenocorticism (Cushing's disease). In animals with a complicated UTI, antibiotics may be recommended for 3 to 6 weeks. A urine culture will likely be recommended partway through the treatment to make sure the UTI is under control, and then again after the antibiotic treatment is finished to make sure the UTI is cleared.

Although other treatments are sometimes recommended (i.e., cranberry juice), no conclusive evidence proves they are of benefit to dogs and cats. Prompt and appropriate antibiotic treatment based on urine culture and sensitivity is the best way to eradicate a bacterial UTI.

Prevention

In most instances nothing specific can be done to prevent a UTI from occurring. Your dog or cat should be re-evaluated if clinical signs recur. With complicated UTI, your veterinarian should periodically evaluate your pet to make sure that the UTI has not recurred or is under control. In some animals with complicating factors present, a urinary antiseptic or an antibiotic must be given long term to prevent a UTI from reoccurring.



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