

BASIC INFORMATION

Description

Urethral obstruction (UO) is a condition in which the urethra, which is the tube that carries urine from the bladder to outside the body, becomes blocked. This condition occurs primarily in male cats, because the urethra is extremely narrow as it passes through the penis. Female cats have a much wider and shorter urethra, which is unlikely to become blocked.

Causes

A variety of conditions can cause the urethra to become obstructed. Sometimes the obstruction is a physical blockage, such as a stone that does not completely pass. Gritty material that forms in the bladder may cause bladder inflammation that produces thick secretions. These secretions mix with the gritty material and form a substance that has the consistency of toothpaste. It is so thick that it may block the urethra. Excessive scar tissue from a stone that lodged previously or from prior urethral catheterization can cause a UO. In some situations, no physical obstruction is present but severe urethral spasms prevent urine from being passed.

Clinical Signs

The most common signs of UO are frequent trips to the litter box, generally associated with pain (crying) and straining to urinate, without producing any urine. As the problem progresses, kidney failure can develop and cause lethargy, vomiting, poor appetite, depression, and collapse. If the UO is not relieved in a timely manner, death can occur.

On physical examination, the bladder is usually distended, hard, and painful. The penis may be protruded and discolored (purple). If severe kidney failure is present, the heart rate may be slow due to high blood potassium levels. This is a critical problem that must be addressed immediately or the heart will stop.

Diagnostic Tests

The presence of a UO is usually diagnosed on physical examination. In about half of the cases, the exact underlying cause is not determined. Abdominal x-rays that include the urethra may reveal stones. An abdominal ultrasound may show sediment (sludge) in the bladder, although this does not prove that the sediment is causing the obstruction.

In some cases, particularly when obstruction recurs, a contrast study (urethrogram) may be helpful. With the animal under heavy sedation, liquid contrast material (a dye that appears white on x-rays) is injected into the urethra via a urinary catheter, and

x-rays are taken. This technique can document the presence and location of a physical obstruction.

In addition to tests that look for a cause of the UO, blood tests to assess kidney function and electrolytes (potassium, sodium, and others) are usually performed.

TREATMENT AND FOLLOW-UP

Treatment Options

The first step is to stabilize any life-threatening conditions, such as a high blood potassium concentration. An intravenous (IV) catheter is placed so that fluids and emergency drugs can be given through the IV. The urinary bladder is often temporarily emptied by cystocentesis, which involves passing a needle through the abdominal wall into the bladder and aspirating the urine.

After the patient is stabilized, the blockage is relieved. A urinary catheter is inserted into the urethra and passed into the bladder. Injection of saline solution into the urethra as the catheter is passed sometimes flushes obstructing material back into the bladder. If the UO has developed from urethral spasms, a small amount of a numbing agent (lidocaine) may help relax the spasm enough to allow passage of the catheter.

IV fluids may be needed for a few days to treat any kidney damage. If an identifiable cause of the UO is detected, treatment of that condition is also necessary. For example, bladder surgery may be done to remove any stones.

Cats with frequent recurrence or persistent UOs may be treated with a surgical procedure called a *perineal urethrostomy* (PU). This procedure removes the penis (penile amputation) and the smallest part of the urethra, which is the area that becomes blocked most often. This procedure may increase the risk of bladder infections in some cats.

Prevention of UOs generally involves feeding a diet designed for urinary problems. Feeding moist food keeps the urine less concentrated and also decreases the risk of recurrence.

Follow-up Care

Intensive monitoring is needed for cats that are seriously ill, are in kidney failure, or require prolonged use of a urinary catheter. Urinalysis and urine culture are often repeated about 2 weeks after an episode.

Prognosis

Most cats with UOs survive and are discharged from the hospital. The risk of recurrence of signs is about 50%, and about 33% of these cats will experience obstruction again.