

BASIC INFORMATION

Description

The ureter is the tube that carries urine from the kidney to the bladder. An ectopic ureter is a ureter that enters the bladder in an abnormal position. Normally, the ureter empties into the bladder in front of the bladder sphincter, the muscle that keeps the bladder closed so that urine does not leak out. When the opening of the ectopic ureter is beyond the bladder sphincter, urine constantly dribbles out as it is formed. This manifests as urinary incontinence.

Causes

Ectopic ureter is a congenital defect, meaning that it is present at birth. In some cases, it appears to be inherited. Breeds that are predisposed to ectopic ureters include the Siberian husky, Labrador retriever, golden retriever, Newfoundland, English bulldog, West Highland white terrier, fox terrier, Skye terrier, and miniature and toy poodles. The condition is rare in cats. Ectopic ureter can involve one or both ureters and is sometimes complicated by abnormalities of the bladder wall or sphincter.

Clinical Signs

The most common sign of ectopic ureters is urinary incontinence in a young dog. Affected dogs may constantly dribble urine or leak urine while sleeping. In female dogs, the fur under the tail and back legs may be wet or discolored from the constant urine leakage. Bladder infections may be present. In most cases, the problem is present from an early age, but occasionally signs do not occur until middle age. Normal urinations are also usually seen.

Diagnostic Tests

Initially, blood and urine tests (urinalysis, culture) are often recommended to assess kidney function, check for bladder infections, and search for other causes of increased urine production. Following these tests, some form of advanced imaging is needed to diagnose ectopic ureters.

- Cystoscopy is one of the best tests for diagnosing ectopic ureters, because the opening of the ureters can be seen by passing a tiny, fiberoptic viewing scope into the bladder with the animal under anesthesia. This procedure is not widely available, however.
- An excretory urogram can be performed at most hospitals. It involves giving an intravenous injection of a contrast agent (a dye that shows up white on x-rays) and then taking a series of x-rays that follow the dye as it goes through the kidneys and ureters to

the bladder. In larger dogs, the accuracy of this test is increased by using computed tomography (CT scan) instead of plain x-rays.

- In some cases, the ectopic ureter can be identified on abdominal ultrasound.
- Retrograde urethrography may be tried but does not always identify the ectopic ureter. With this procedure, dye is injected into the bladder through a urinary catheter, and x-rays are taken. If the dye enters the ureter, then its location may be visible on the x-rays.

Measurement of the strength of the bladder sphincter can give additional information, but the equipment for this test is not commonly available.

TREATMENT AND FOLLOW-UP

Treatment Options

The best treatment is to surgically move the ureter to a normal location in the bladder, especially if the kidney on that side is functioning normally. Various surgical techniques are available to accomplish this and many require use of an operating microscope or some form of magnification to improve the outcome. Your pet may be referred to a veterinary surgery specialist for this procedure.

A newer treatment option that is not yet widely available involves use of a laser to redirect the opening of the ureter to further inside the bladder. This laser technique is done via cystoscopy and does not require open-abdominal surgery, but it can only be used for certain types of ectopic ureter.

If the ectopic ureter is not fixed, urinary incontinence continues. These dogs are at risk for bladder infections that can spread upstream to the kidneys (pyelonephritis), which can be life-threatening.

Follow-up Care

If surgery was performed, the animal is kept quiet postoperatively until suture removal (in 10-14 days). After correction, urine may be cultured at the first follow-up visit to check for persistent infections. If surgery is successful, long-term follow-up is not necessary, but further testing may be needed if incontinence persists.

Prognosis

Prognosis with surgery or laser treatment is good, in that the majority of dogs are not incontinent afterward, or any residual incontinence can be controlled with medications. In some cases, the incontinence persists after surgery, particularly in those animals with additional abnormalities of the bladder sphincter.