Screening Obstructed Cats

Zenithson Ng, DVM, MS, DABVP (Canine and Feline Practice)
University of Tennessee

In the Literature

Neri AM, de Araújo Machado LH, Guimarães Okamoto PT, et al. Routine screening examinations in attendance of cats with obstructive lower urinary tract disease. *Top Companion Anim Med*. 2016;31(4):140-145.

FROM THE PAGE ...

Feline obstructive lower urinary tract disease (FLUTD) diagnosis is based on history of stranguria, palpation of a firm distended bladder, and presence of ischuria.[1] Metabolic and hemodynamic abnormalities often result and should be documented before anesthesia is administered for unobstruction. This study described a standardized diagnostic protocol and results from 26 male cats that were presented for urethral obstruction.

In addition to history and physical examination, a minimum database (ie, blood pressure measurement, ECG, serum chemistry profile, blood gas analysis) was collected. Urine for urinalysis was collected from 17 cats via cystocentesis. Despite concerns regarding cystocentesis in obstructed cats, no adverse effects were reported.

Cats that were obstructed for more than 36 hours had greater hemodynamic and metabolic abnormalities than did cats obstructed for less than 36 hours. Arrhythmias were noted in 15.38% of cats with a serum potassium greater than 8.5 mEq/L; a previous study found arrhythmias were not correlated directly with the magnitude of electrolyte abnormalities.[2] Despite hyperkalemia being a common finding in this population, bradycardia was infrequent (7.69% of cats). The authors proposed that sympathetic activation from stress and pain may have masked bradycardia, which would have typically been present.

Most cats (69.24%) were normotensive, but ionized calcium levels were significantly lower in normotensive cats as compared with hypertensive cats. This is concerning because calcium concentration has been shown to be lower in nonsurvivors as compared with survivors.[3] Therefore, it cannot be assumed that normotensive patients are metabolically stable, as these cats had more significant laboratory changes as compared with hypertensive cats. Less than half of these cats (46.15%) were able to be unobstructed via urethral catheterization; the remaining cats (53.85%) were surgically unobstructed via perineal urethrostomy.

This proposed protocol of clinical screening examinations during early treatment of obstructed cats provides a dynamic assessment that can be monitored continually as therapy is instituted.

... TO YOUR PATIENTS

Key pearls to put into practice:

1. Prepare owners by communicating clearly that failure to correct obstruction via urethral catheterization is common and warrants surgical intervention.
2. Normal heart rate and blood pressure do not rule out laboratory abnormalities. Electrolytes should be measured in all patients, even for normotensive patients and in the absence of bradycardia.
3. Hypothermia is a common clinical finding and may reflect the magnitude of urinary obstruction and associated clinicopathologic abnormalities.

References

1. Gerber B, Eichenberger S, Reusch CE. Guarded long-term prognosis in male cats with urethral obstruction. *J Feline Med Surg*. 2008;10(1):16-23.
2. Tag TL, Day TK. Electrocardiographic assessment of hyperkalemia in dogs and cats. *J Vet Emerg Crit Care*. 2008;18(1):61-67.
3. Segev G, Livne H, Ranen E, Lavy E. Urethral obstruction in cats: predisposing factors, clinical, clinicopathological characteristics and prognosis. *J Feline Med Surg*. 2011;13(2):101-108.