

WHAT IS YOUR DIAGNOSIS

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Signalment

A 5-year-old female Domestic short hair cat

History

The cat had had stranguria and had not improved after medical treatment. Urinary catheterization was performed to relief urine retention as a palliative treatment. Reddish-colored urine was observed. Owner did not recognize any previous traumatic history.

Clinical Examination

The cat was in pain during abdominal palpation, from which distended urinary bladder (UB) was detected. Slight increase of renal blood panel and panleukopenia were detected from hematological examination.

Radiographic Examination

Ventrodorsal and right lateral abdominal radiographs were taken to evaluate urinary tract. Positive contrast urethrocytography was performed by using non-ionic iodine contrast (Iohexol 300 mgI/ml: the same volume as the volume of urine taken out of the bladder after UB catheterization) to get more detail of the UB and urethral abnormality.



Figure 1A, B Plain ventrodorsal and right lateral abdominal radiographs
Figure 2 Positive contrast urethrocytograph

Give your diagnosis and turn to the next page.

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Radiographic findings

Plain abdominal radiographs (Fig.1A, B) showed marked UB distension. Cranial displacement of the UB silhouette was found on the lateral radiograph (1B). Retrograde positive contrast cystograph (Fig.2) revealed a filling defect in urethral lumen and neck of UB. The vesicourethral junction was dilated so small amount of contrast was refluxed into the ureter. Positive contrast could not get passed through the body of UB. There was no evidence of any pelvic bone or lumbosacral vertebral fracture. Other abdominal organs were in normal appearances.

Radiographic diagnosis

Stenosis of the neck of UB

Discussion

Stenosis of the UB is caused by hyperactivity of mucosal and muscular layer healed after UB rupture or cystitis. To investigate this abnormality, positive contrast urethrocystography is recommended to identify UB luminal lesion. If lumen stenosis is suspected, case should be taken for an estimation of contrast volume used in this special technique to avoid iatrogenic UB rupture. Palpation of UB during examination or radiographic positioning should gently perform to avoid increasing pressure to the UB. Vesicourethral reflux can occur when using large volume of positive contrast medium or high pressure contrast injection during retrograde urethrocystography in normal cat. In a case of cystitis that is associated with dysfunction of the vesicoureteral valves, vesicourethral reflux can also be seen via retrograde urethrocystography.

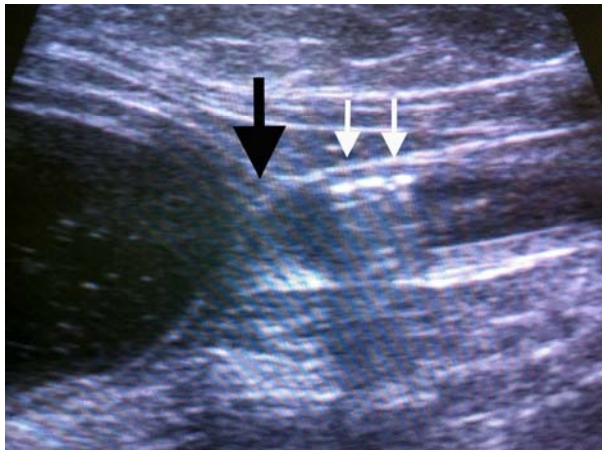


Figure 3 Ultrasonograph showed a dilated neck of UB with a thin hypoechoic septum separating between the body and the neck of UB (black arrow). The small hyperechoic particles (white arrows) represented air bubbles, which were retained after urinary catheterization.

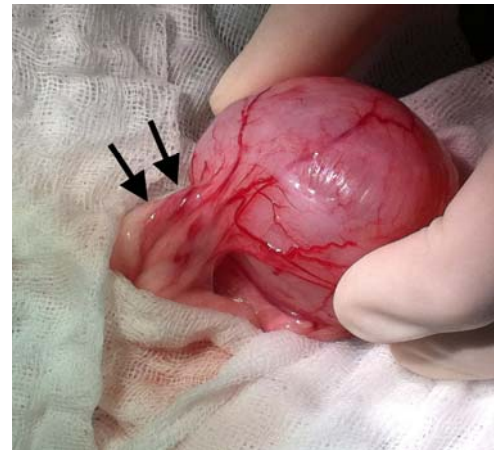


Figure 4 Neck of UB (black arrows) was separated from the body by thin connective tissue band and presented as a small chamber connecting between ureter and urethra.

Reference

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 Marolf A.J. and Park R.D. 2013. The Urinary Bladder. In: Textbook of Veterinary Diagnostic Radiology. 6th ed. Elsevier Saunder Company. Missouri. P 726- 742.