

What's Your Radiographic Diagnosis?

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Signalment

A nine year old, male German Shepherd dog.

Presentation

The owner complains that the dog "is not feeling up to par". The dog had one episode of urine dribbling four weeks ago and vomits occasionally.

Physical Examination

The dog is lethargic and not willing to get up. Temperature = 101.6 F, pulse = 96 bpm, respiration = 24/min. He is current on recommended vaccinations and receives a daily heartworm preventative. The owner has not observed any other urinary abnormalities or straining to defecate.

Survey caudal abdominal radiographs were obtained (Fig. 1). A retrograde positive contrast urethrogram was also performed (Fig. 2).

Radiographic Findings

Survey - A large, peanut-shaped soft tissue silhouette is present in the caudoventral abdomen on the lateral view. The position of adjacent small intestinal loops indicates that the cranial half of the peanut-shaped silhouette represents a cranially displaced urinary bladder. The cranioventral margin of an enlarged prostate silhouette is fairly well highlighted by less radiopaque peritoneal fat. The enlarged prostate extends 10 cm cranial to the pelvic inlet and displaces the urinary bladder and small intestine loops cranially. The prostatic mass is obscured on the VD view by

the overlying vertebra and prepuce. The position of the gas- and fecal-filled descending colon is unremarkable. Incidental radiographic findings include osteophyte proliferation along the left femoral head and neck margin indicating chronic secondary degenerative osteoarthritis and ventral spondylosis deformans at L2-3.

Retrograde Urethrogram - A single bolus of hypertonic, triiodinated water-soluble positive contrast was rapidly introduced into the urethra via a balloon-tipped catheter. The radiographic exposure was obtained during administration of the last 2 mls of contrast. The swirling pattern within the cranially displaced urinary bladder is produced by mixing of the contrast with urine. The mild widening of the smoothly-marginated prostatic urethra is a normal finding.¹ No contrast extravasation into the prostatic ducts is seen.

Radiographic Diagnosis

A generalized prostatomegaly is present with resultant cranial displacement of the urinary bladder and small intestinal loops, to a lesser degree. Differentials for this radiographic finding include benign prostatic hypertrophy, +/- cyst formation, prostatitis and prostatic neoplasia. Benign prostatic hypertrophy is considered most likely due to the mild clinical signs and the symmetrical distribution of the prostatic tissue around the smooth, normally sized urethra on the contrast study.

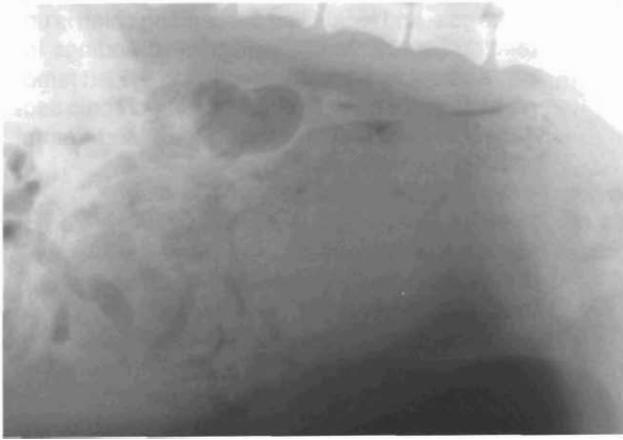


Fig. 1 Lateral (A) and ventrodorsal (B) views of the caudal abdomen.



Fig. 2 Lateral view obtained during retrograde positive contrast urethrography. The catheter tip is positioned at the caudal aspect of the os penis.

Discussion

Prostatomegaly can be produced by several different disease processes, all of which may appear similar on radiographs. Benign prostatic hypertrophy (BPH) is one of the most common of these abnormalities in an older, sexually intact male dog.²⁻⁴ Development of dilated prostatic ducts is common as benign prostatic hypertrophy progresses. Common clinical signs observed in dogs with BHP include urethral discharge, hematuria and rectal tenesmus.^{3,5} Benign hypertrophy may also be identified in dogs with no clinical signs referable to the prostate.

Benign prostatic hypertrophy was confirmed in this case by surgical biopsy at the time of castration. Ultrasound-guided microcore biopsy or fine-needle aspiration could have been considered as an alternate method for obtaining prostatic tissue.

References

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