



PATIENT PRESENTING CLINICAL SIGNS

Zeus Job
History: Bladder palpated and feels small. Dog doing well at home currently but is dribbling urine with some spurts. Very consistent and frequent urination, running around and eating like normal. No other symptoms. Discussed risk of anesthesia due to existing heart murmur. MM pink, CRT less than 2, dental disease. Heart murmur grade 5-6/6. Penis appears normal but part of urethra seems dilated or bulbous. No meds.

SPECIES

Canine

Abnormal PE/Chem/CBC/UA Results: HR 110, RR24. Urine sp grav 1.030 and 2+ blood.

BREED

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Pomeranian X Poodle

Urinary System

The urinary bladder is moderately distended. In the region of the apex several polypoid-like lesions are arising from the wall. Tiny calculi along with a small amount of gravity-dependent mineralized sand are observed. A small to moderate amount of suspended echogenic debris is observed within the lumen. The region of the trigone and the proximal urethra, visible to a depth of 2 cm, are normal.

SEX

Neutered Male

The prostate is normal in size (0.88 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.

AGE

13 years

The left kidney is normal in size (4.46 cm in length) with a normal shape, architecture and smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. Several nonobstructive nephroliths are visualized. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

WEIGHT

7.99 kg

The right kidney is normal in size (4.94 cm in length) with a normal shape, architecture and smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with mild to moderate loss of corticomedullary distinction. Several nonobstructive nephroliths are visualized. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

INTERPRETED BY

Andrea Nicastro, DVM,
Diplomate ACVIM (*Small
Animal Internal Medicine*)

IMAGING PERFORMED BY

Crystal Hill

Adrenal Glands

The left adrenal gland is enlarged (1.08 cm at cranial pole) (0.59 cm at caudal pole) (2.16 cm in length) with an irregular shape. A 1.79 x 1.34 cm hyperechoic-to-heterogenous nodule/mass is observed in the cranial- to mid-aspect. Glandular echogenicity and detail at the caudal aspect are normal. The phrenicoabdominal vein and surrounding vasculature appear normal.

HOSPITAL NAME

Beatties PH Stoney
Creek

The right adrenal gland is in normal size (0.98 cm at cranial pole) (0.50 cm at caudal pole) (1.74 cm in length) with a normal shape and homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature appear normal.

REFERRING VET

Baskin

Spleen

The spleen is normal in size (1.17 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. A few small, irregular hyperechoic nodules are observed (the largest measuring 0.45 cm in diameter). Splenic vasculature appears normal.

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Liver

The liver is prominent in size with normal curvilinear peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely homogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion.

DATE

3.30.23

The gall bladder lumen is moderately distended. The wall is thin and smooth. Luminal contents are mostly anechoic. The cystic and common bile ducts are normal/not seen.


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Gastrointestinal

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is minimally fluid-distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall is normal in thickness with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

Pancreas

The pancreas is normal in size with normal peripheral contours. The pancreatic duct is normal. The base and limbs of the pancreas are isoechoic to surrounding omental fat. No focal lesions are observed. There is no evidence of peripancreatic inflammation or effusion.

Free Abdomen

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

ULTRASONOGRAPHIC FINDINGS
Primary Findings

- Tiny cystic calculi with mineralized urinary bladder sand. The urinary bladder wall changes are most consistent with polypoid cystitis with a lower possibility of emerging neoplasia (i.e., transitional cell carcinoma).
- Bilateral chronic renal changes with nonobstructive nephrolithiasis

Secondary Findings

- The hepatic parenchymal changes are most consistent with a benign hepatopathy (i.e., vacuolar hepatopathy) with a lower possibility of more insidious hepatic pathology. However, correlation with the patient's liver values is recommended.
- The hyperechoic splenic nodules trend toward the benign (i.e., myelolipomas) with a lower possibility of emerging neoplasia (i.e., mast cell disease).
- The left adrenal nodule could be consistent with macronodular hyperplasia or an emerging tumor (i.e., adenoma, adenocarcinoma, or pheochromocytoma).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Baseline lab work, including a CBC, chemistry panel, urinalysis and T4 is recommended (if not already performed).
- Given the urinary bladder changes, consider the following:
 1. Urine culture and sensitivity
 2. +/- a urine BRAF test to screen for lower urinary tract neoplasia. A positive test confirms cancer. However, a negative result does not rule out the possibility of neoplasia.
 3. A cystotomy with stone removal, analysis and culture can be considered. Alternatively, an attempt at medical dissolution of the cystic calculi is an option. If there is no improvement in stone size within 4-6 weeks of initiating therapy, a cystotomy should be reconsidered.
- Regarding the left renal nodule, consider a recheck ultrasound in 1-2 months to assess for growth. If the patient develops clinical signs associated with the adrenal lesion, further testing



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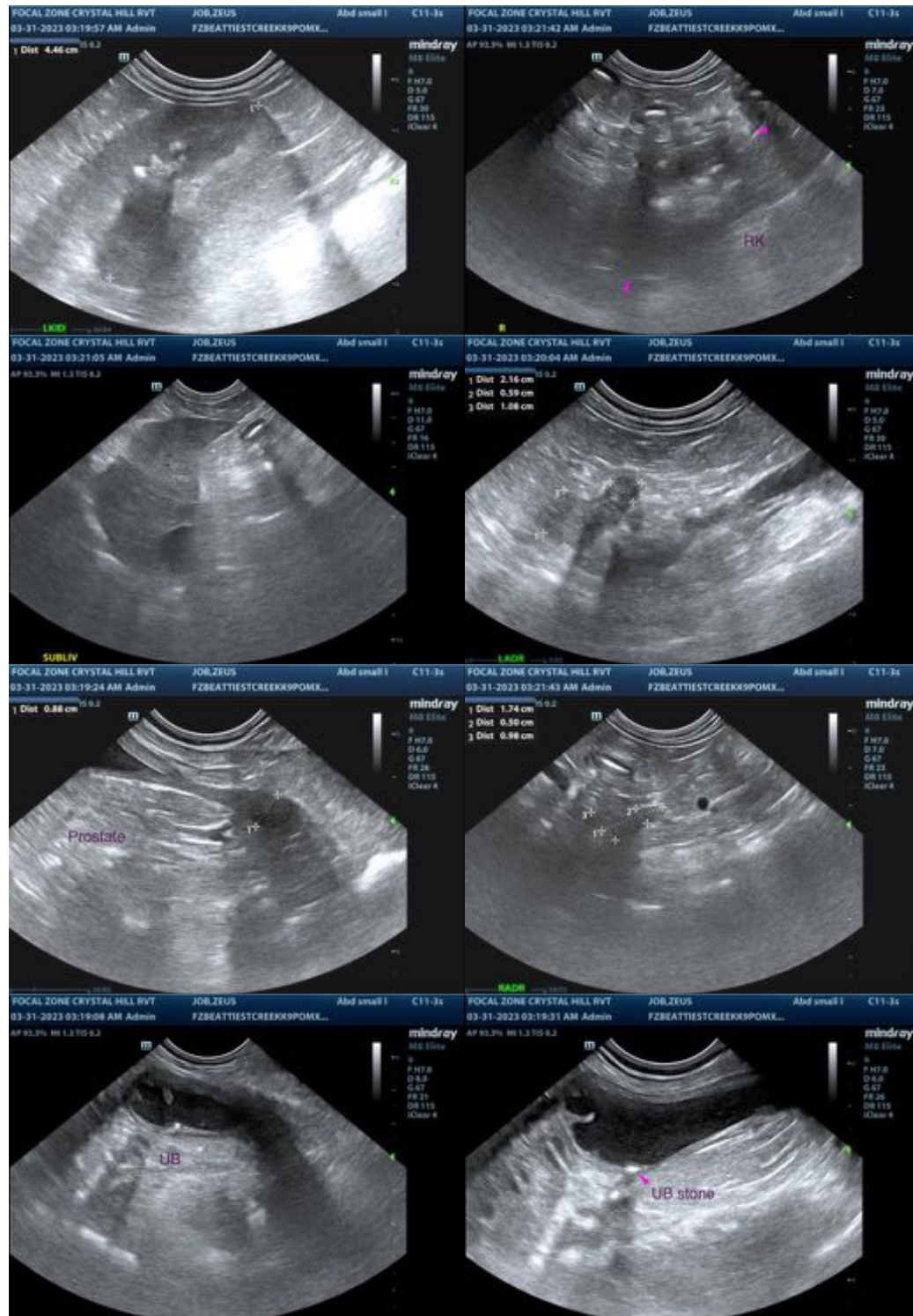
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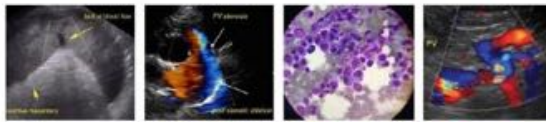
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(i.e., low-dose dexamethasone suppression test, baseline blood pressure measurement, urine/blood catecholamine levels) may be warranted.





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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

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