



PATIENT PRESENTING CLINICAL SIGNS

Maggie Norman Straining to urinate, Bladder stones with one stone at neck of bladder. To have cystostomy

SPECIES Abnormal PE/Chem/CBC/UA Results: CBC: Retic-HGB 30.9 (N 22.3-29.6) Increased PCT CHEM: Urea 12.9 (N 2.5-9.6) ALB 43 (N 213-40) Amyl 441 (N 500-15000 SDMA 7 (N 0-14) TT4 19 (N 13-51) U/A: Canine Free catch, pale orange, very cloudy, USG 1.031, pH 8.0, Leu 500, Pro 100, Glu/ Ket/ Bil Negative, UBG normal, Bld 250 SEDI: WBC >50/HPF, RBC >50/HPF, Bac sus[pect rods, cocci present. Non-SEC 1-2/HPF, Cast non hyalin >1/LPF, Crystals 0 Xrays: 1. Suspect urethral calculus causing a bladder obstruction. 2. Large number of cystic calculi. 3. Otherwise unremarkable abdomen. 4. Mild cardiomegaly likely due to valvular degenerative disease. There is no evidence of heart failure at this time. 5. Dynamic tracheal and left mainstem bronchial collapse.

BREED

Shih Tzu

SEX

Spayed Female

AGE

7 Years 11 Months

WEIGHT

7 kg

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Brian Barnes

HOSPITAL NAME

Westview Vet Hospital

REFERRING VET

Dr. Brian Barnes

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44524

DATE

8/1/23

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots. No masses are observed. Multiple, too numerous to count, approximately 1.0 cm in diameter shadowing cystoliths are noted. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (4.65 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

The left kidney is normal in size (4.03 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

Adrenal Glands

The right adrenal gland is normal in size (0.38 cm at the cranial pole and 0.48 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.32 cm at the cranial pole and 0.40 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

Spleen

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

Liver

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.



PATIENT

Maggie Norman

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

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Canine

Gastrointestinal

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

BREED

Shih Tzu

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

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The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

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Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

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Free Abdomen

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There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

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- Large number of approximately 1.0 cm in diameter urinary bladder cystoliths, too large to pass on their own, with no visible evidence of obstruction noted in these images at this time.
- Mild gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

As is reportedly already planned, a cystostomy is recommended to remove the numerous cystoliths and submit them for stone analysis to help manage future prevention techniques.

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Additionally, given the suspicion for bacteria in the urinalysis, a urine culture is recommended to help guide treatment of a suspected secondary urinary tract infection.

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Alternatively, given the concurrent infection, management of the infection and a dissolution diet could be started with monitoring of the stone size for improvement, etc. However, given this patient's presenting complaint of a suspected lower urinary obstruction, a medical approach may not be possible.

If a medical approach is elected and the stones don't start shrinking, they're either not a dissolvable



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stone, or potentially there is too many of them, and reversion back to a cystotomy would be necessary.

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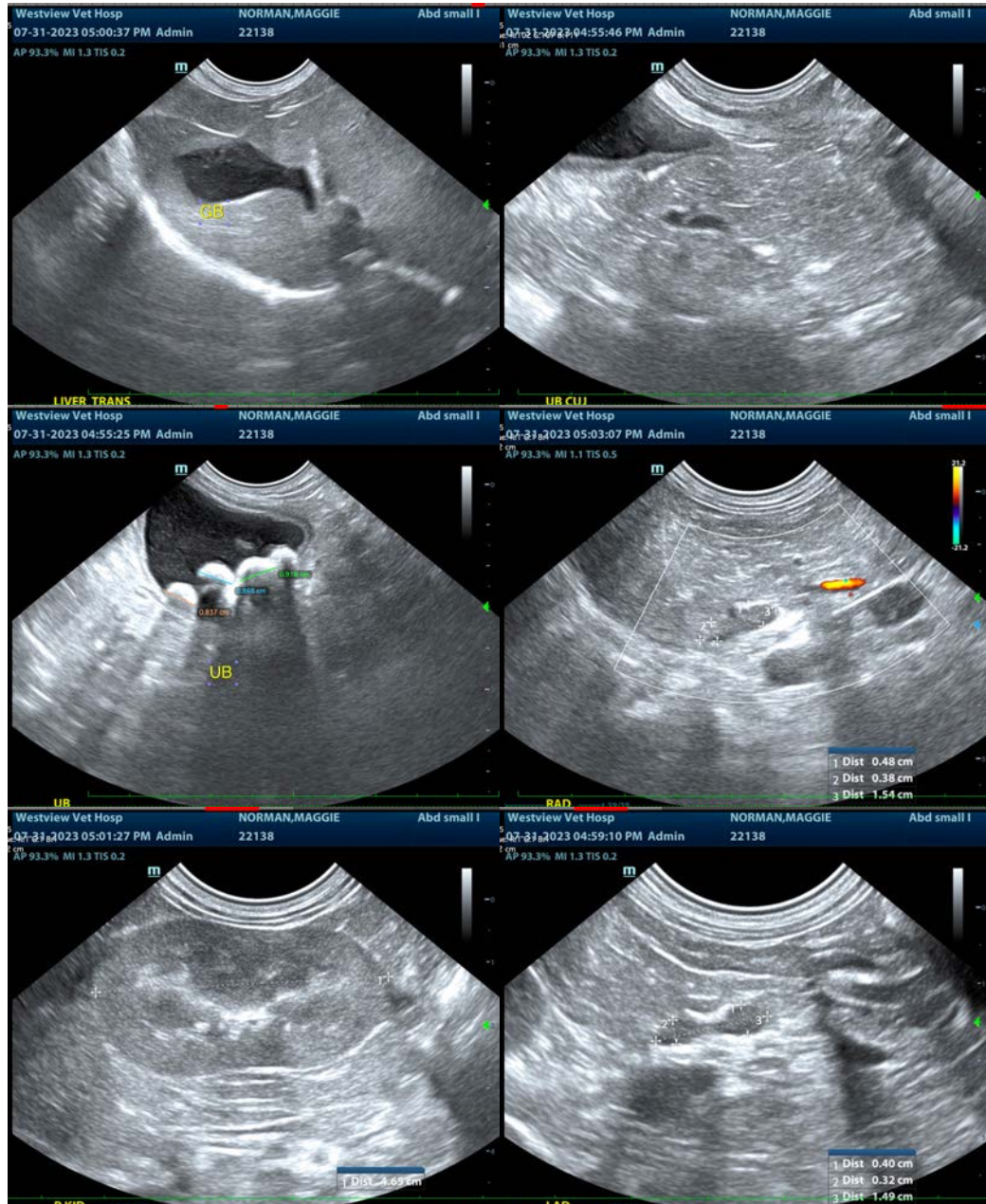
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Beth Johnson, DVM, DACVIM
info@sonopath.com