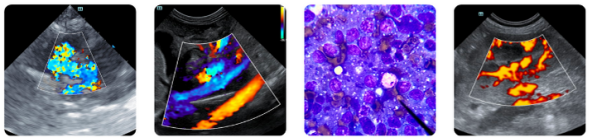

PATIENT

Luna Peter

SPECIES

Canine

BREED

Shih Tzu

SEX

SF

AGE

7 years 6 months

WEIGHT

8 kg

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Dr. Mariusz Chmielinski

HOSPITAL NAME

Apex Veterinary Services Ltd.

REFERRING VET

Alpine 24/7 – ER Dr

INVOICE

11744

DATE

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PRESENTING CLINICAL SIGNS

Acute vomiting, inappetence, lethargy, abdominal pain. Possible dietary indiscretion ± foreign body. Hospitalized for stabilization (IVF, analgesia, antiemetics, antibiotics.)

Abnormal PE/Chem/CBC/UA Results: CBC: mild neutrophilia Chemistry: mild hypokalemia (3.3) UA: USG 1.030, proteinuria, hematuria, pyuria; sediment noted Radiographs: left kidney enlarged, possible SI gas pattern (FB not ruled out.)

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, as well as dependent mineral “sand” (crystals) debris. Both sterile inflammation as well as urinary tract infection can present with echogenic debris. No masses or discrete definitive cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal is size (4.5 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. Pinpoint non-obstructive mineral debris is noted within the right kidney as is mild to moderate pyelectasia measuring 0.28 cm in transverse view. There is no evidence of infarcts observed.

The left kidney is enlarged/swollen is size (5.0 cm) with an overall hyperechoic echogenicity, and slight loss of corticomedullary distinction. Normal smooth peripheral margination is maintained. The renal pelvis, however, is markedly dilated measuring 1.0 cm dilated in transverse view with hyperechoic thickened pelvic fat and a concurrently dilated ureter measuring 0.35 cm dilated at the level of intraluminal mineral/ureterolith that measures approximately 0.4 cm in size. The distance of the suspected ureterolith from the kidney is difficult in these images.

Adrenal Glands

The right adrenal gland is normal in size (0.57 cm at cranial pole and 0.6 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

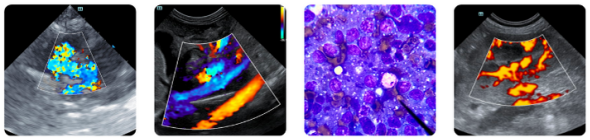
The left adrenal gland is normal in size (0.79 cm at cranial pole and 0.55 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

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.



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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.

Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach **is** mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction or foreign material noted**.** Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction or foreign material noted.

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

Pancreas

The pancreas that is observed appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is markedly enhanced hyperechoic tissue and fat as well as trace free fluid noted primarily adjacent to the left kidney.

There is no apparent pathologic lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

- Suspect, at least partially, if not fully, obstructive left ureterolith resulting in emerging left hydronephrosis and a significant degree of inflammatory changes, i.e. enhanced hyperechoic fat and free fluid adjacent to the left kidney. Concurrent infection/pyelonephritis can't be ruled out.
- Much less significant pyelectasia is also noted in the right kidney with no definitively visible evidence of obstructive mineral noted in that kidney at this time.
- A moderate amount of echogenic urinary bladder mineral/sand debris is also present.
- Moderate 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.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

If not recently evaluated a urine culture is recommended.

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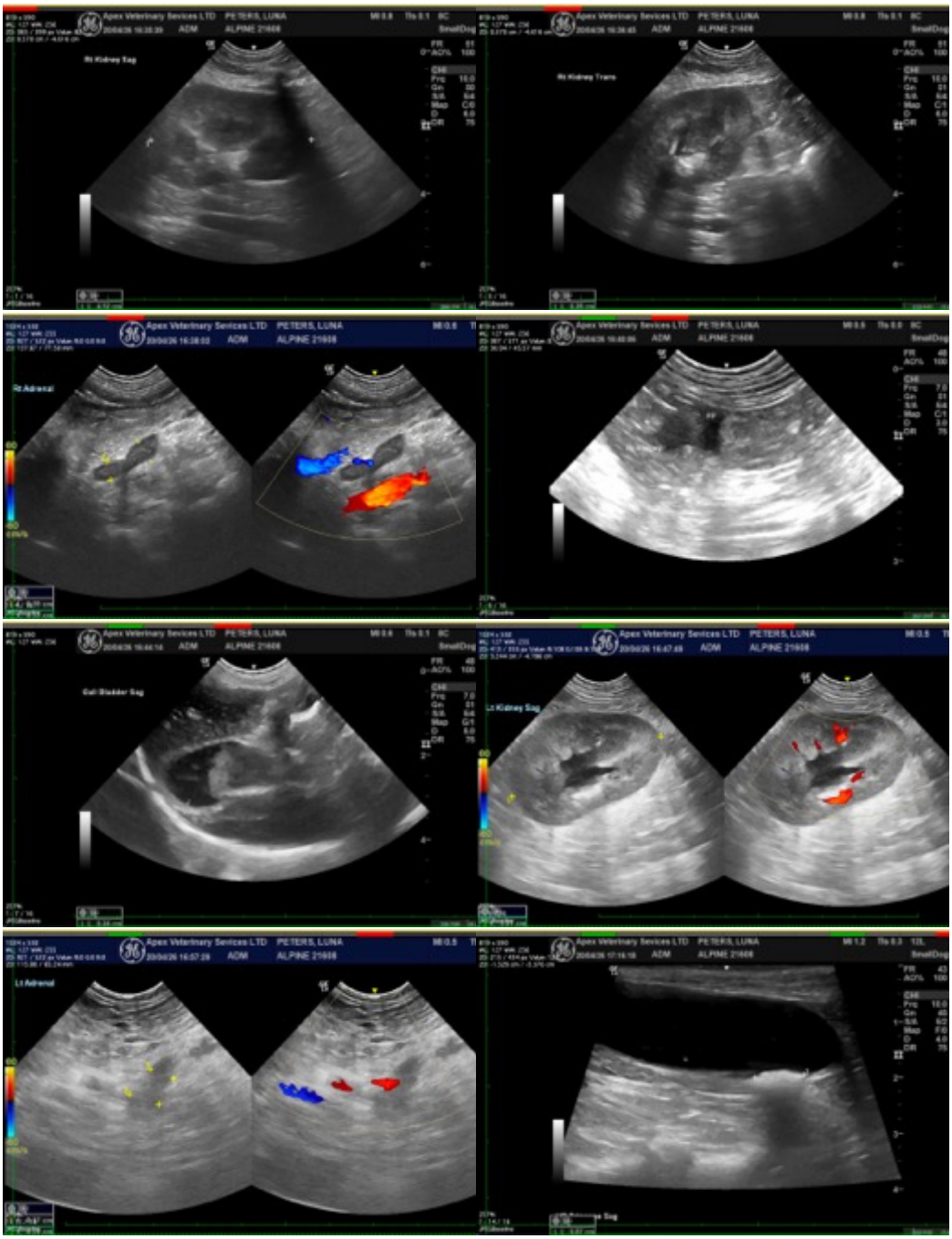
Ultimately, consultation and/or referral to a veterinary internist or surgeon is recommended to help determine if the mineral can be dislodged to preserve ongoing damage to the left kidney or if intervention to remove or bypass the obstruction may be necessary. Intervention is time sensitive/critical, however, in the meantime in addition to supportive/symptomatic medical management of clinical signs, pain management is recommended as is adequate hydration and empirical antibiotic therapy.



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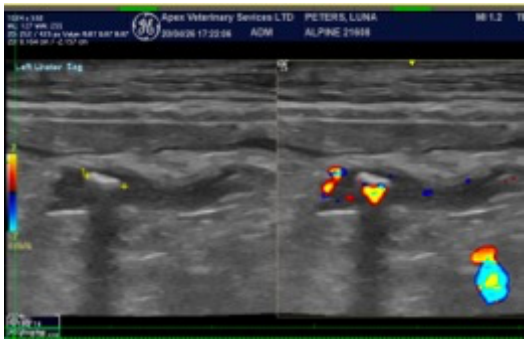

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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