SonoPath
Clinical Sonography & Telecytology
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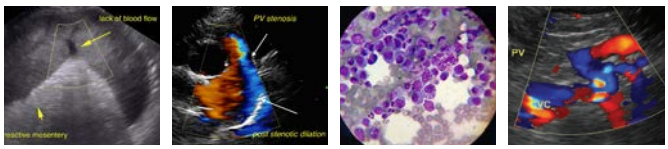

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1-800-838-4268 info@sonopath.com

PATIENT
Skeletor Carrillo

SPECIES
Feline

BREED
DSH

SEX
Neutered Male

AGE
14 Years

WEIGHT
10 Pounds

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Dr. Desen Ertunc

HOSPITAL NAME
Healing Spirit

REFERRING VET
Dr. Desen Ertunc

INVOICE
39959

DATE
7/28/22

PRESENTING CLINICAL SIGNS

Chronic rhinitis, previously antibiotic responsive now no response with bilateral mucohemorrhagic nasal discharge. Has been hyporexic-anorexic x 3 weeks. Thoracic radiographs were WNL, suspected aerophagia. CT pending

Abnormal PE/Chem/CBC/UA Results: PE- Marked mucohemorrhagic nasal discharge bilaterally. CBC: Eos= 0.51 (0.02-0.49), otherwise WNL Chem: Amylase=1139 (300-1100), Ca= 13.3 (8.0-11.8), TP= 8.3 (5.4-8.2), otherwise WNL. fPL= abnormally elevated (results N/A)

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 a moderate to large amount of echogenic, non-shadowing debris, as well as mineral debris and sand. Incidental suspended lipid in a cat can cause the appearance of debris, possibly combined with exfoliated cells, mucus, and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is large in size (5.0 cm), and is diffusely echogenic with decreased corticomedullary distinction and poor visualization of internal architecture. There is no pyelectasia noted. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted.

The left kidney is small (2.9 cm), irregular and diffusely echogenic with decreased corticomedullary distinction and poor visualization of internal architecture. There is no pyelectasia noted. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted.

Adrenal Glands

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

The area of the left adrenal gland is examined without evident pathology.

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

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

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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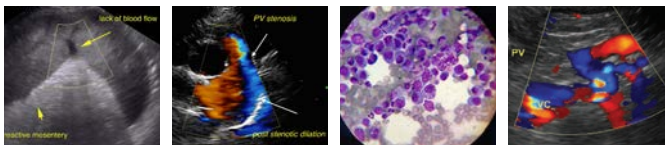

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Gastrointestinal

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.

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.

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

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.

Free Abdomen

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

The mesenteric lymph nodes are prominent in size with swollen capsular contour. Normal elongated shape (length to width ratio) is maintained. There is no loss of parenchymal detail.

PRIMARY FINDINGS

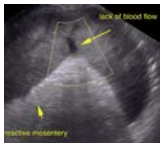
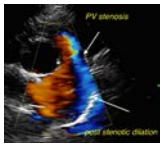
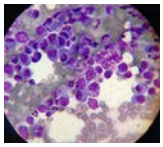
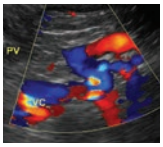
- Urinary bladder debris including mineral and sand
- Bilateral non-obstructive dystrophic renal mineralization and decreased corticomedullary distinction – consistent with chronic kidney disease or possibly hypercalcemia nephropathy. The enlarged right kidney is suspected to be compensatory, given the small, irregular left kidney. Infiltrative disease such as lymphoma cannot be ruled out, but is considered less likely.
- **Hyperechoic hepatomegaly** – This appearance is most consistent with benign hepatic lipidosis. Infiltrative disease such as amyloidosis or round cell neoplasia, such as mast cell tumor or less likely, lymphoma, is also possible.

SECONDARY FINDINGS

- **Gallbladder debris** - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness, however, it can also be associated with hepatobiliary disease in cats 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.
- **Reactive mesenteric lymph nodes –** infiltrative neoplastic disease cannot be ruled out but is considered less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The ultrasound findings noted are most consistent with changes likely secondary to the hypercalcemia, as well as possibly hepatic lipidosis secondary to the reported anorexia. Recommendations include a malignancy panel to include an ionized calcium, PTH, and PTHrP for further workup of the

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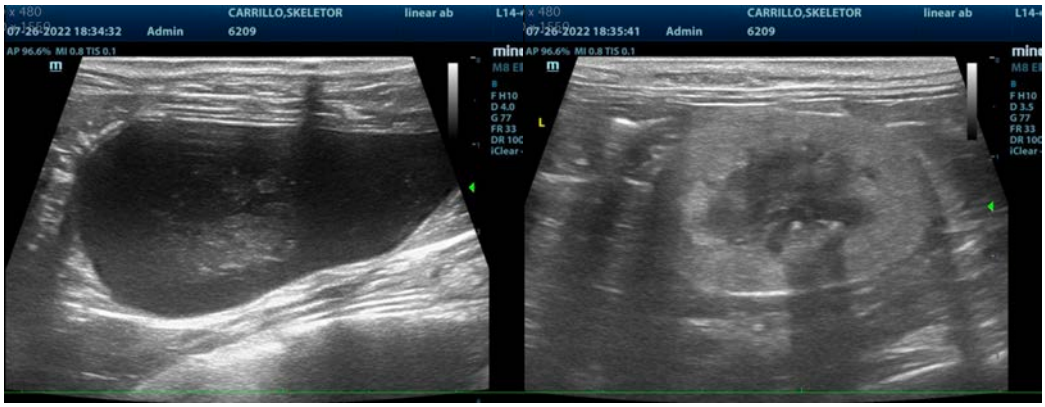
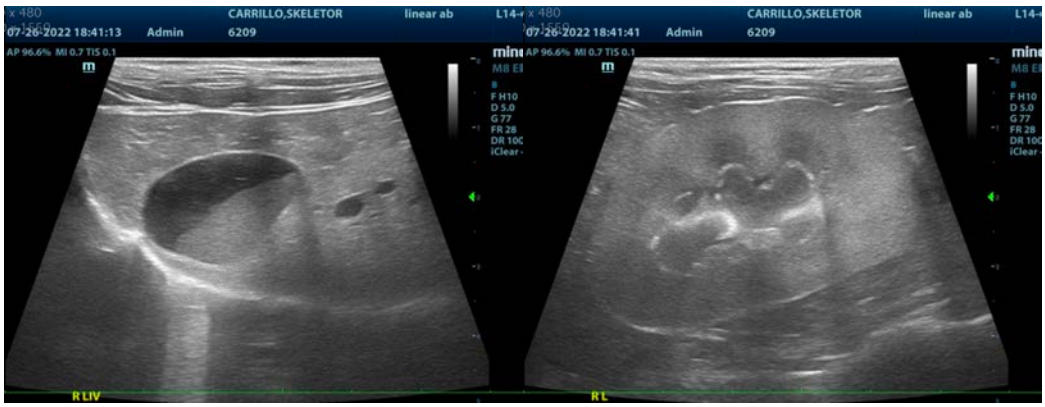
hypercalcemia. Pending results, a fine needle aspirate of the liver could be considered if patient's coagulation status is appropriate. If lymphoma is suggested based on an increased PTHrP, and an answer is not found cytologically from the liver, a fine needle aspirate of the right kidney could also be considered. However, lymphoma in the kidney is again considered a low differential for the cause of the renomegaly.

Urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

In the meantime, the anorexia could be secondary to the hypercalcemia, but is also probably being exacerbated by the rhinitis. Therefore, therapeutic recommendations include management of the rhinitis pending the results of the reportedly evaluated CT scan. Appetite stimulant and/or feeding tube placement may be necessary.





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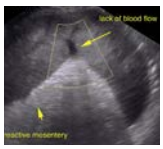
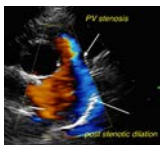
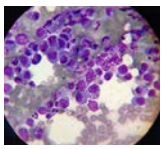
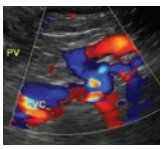

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
Beth.Johnson@sonopath.com