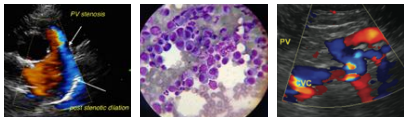
IMAGING PERFORMED BY

IntraPet.com



SonoPath
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DATE

8/9/22

PATIENT

Minnie Kurilla

SPECIES

Canine

BREED

Shih Tzu

SEX

Spayed female

AGE

8/31/07

WEIGHT

16.4 lbs

INTERPRETED BY

Beth Johnson, DVM DACVIM

HOSPITAL NAME

Animal Emergency Hospital

REFERRING VET

Dr. Willer

INVOICE

8/9/22

PRESENTING CLINICAL SIGNS

Vomiting, Pancreatitis, Diarrhea. History: on vetsulin 9 units BID, on Denamarin and potassium citrate on c/d diet. 8/7 Vomiting throughout the night - LE were elevated- ALT 683 ALKP 1272 Bili 4.9 Ketones negative, owner elects outpt. Returned shortly after-- start support for pancreatitis/hepatopathy. Ketones progressed, now mod , but is eating some. 8/8 ALT 854 , ALKP >2000 , Bili 6.1
Current Medications: Buprenorphine, Ampicillin, Metronidazole, Entyce, Ondansetron, Denamarin, Omeprazole.
Lab Results: See attached.
Date of Previous IntraPet Ultrasound: No previous.
Sedation: Not required to complete full diagnostic ultrasound.
Stat Report: Not requested.
Imaging Performed By: Rachel Brilhart, RDMS.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is adequately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

Kidneys are overall normal in size and shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of infarcts observed. A nephrolith is present in the left renal pelvis with mild pyelectasia. Non-obstructive areas of mineralization/nephroliths are noted in the right kidney. The left kidney measured 4.49 cm. The right kidney measured 5.08 cm.

Adrenal Glands

The adrenal glands are bilaterally plump/swollen in size. Normal shape is maintained; however, in the caudal pole of the left adrenal gland there is a capsular expanding nodule. The corticomedullary structure is relatively unremarkable and the visible surrounding vasculature appears normal. The left adrenal gland measured 2.6 cm long, 0.81 cm at the cranial pole and 1.55 cm at the caudal pole. The right adrenal gland measured 2.27 cm long, 1.1 cm at the cranial pole and 0.96 cm at the caudal pole.

Spleen

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 with mildly irregular margins. The parenchyma is heterogenous characterized by multi-focal, cystic/cavitated nodules/masses of varying sizes ranging between 2-3 cm in size within an otherwise, hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately overdistended with organized, aggregated and centralized non-gravity dependent sludge. Striations of sludge separated by anechoic areas are noted extending from the lumen to the luminal wall. The wall is mildly thick, irregular and hyperechoic. There is no evidence of CBD dilation.

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, foreign material or infiltrative disease. 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 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 observed pancreas is prominent (enlarged) in size, hypoechoic to surrounding tissue and irregular in shape with a swollen undulating contour. Enhanced hyperechoic ill-defined surrounding fat is noted.

Free Abdomen

A small amount of anechoic free fluid and enhanced hyperechoic fat and mesentery are present in the cranial abdomen around the hepatobiliary system and pancreas.

There is no apparent lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- **Nodular Liver -** This finding is concerning for infiltrative disease such as round cell neoplasia or metastatic neoplasia. Benign disease (cysts, hematomas, etc.) cannot be ruled out but is considered less likely.
- **Gallbladder mucocele**.
- **Mild acute pancreatitis is suspected.**
- **Bilateral adrenomegaly** This is consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism; however, given the capsular expansion from the left adrenal mass a concurrent left adrenal adenoma or even adenocarcinoma or pheochromocytoma cannot be ruled out.

Secondary Findings

- **Age related renal changes with bilateral non-obstructive mineral.**

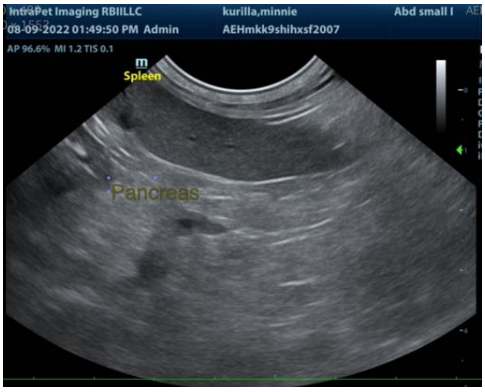
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

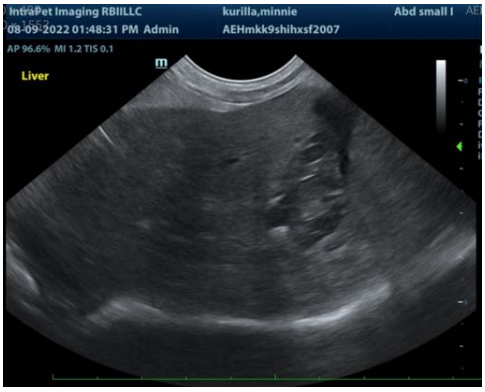
Given the ultrasound abnormalities described above the top differential for this patient's current clinical signs/laboratory changes, etc. is gallbladder mucocele as well as infiltrative hepatic disease suspect neoplasia combined with mild pancreatitis. A quantitative PLI is recommended if not recently evaluated.

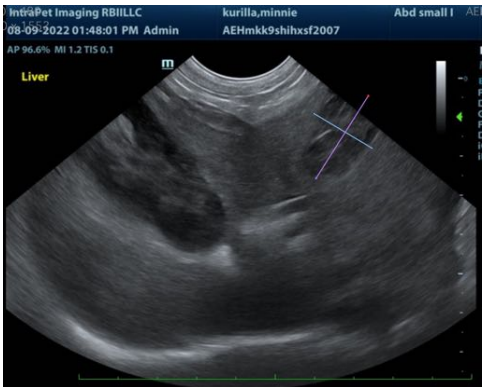
A FNA of the liver can be considered if the patient's coagulation status is appropriate or alternatively after the patient is stabilized an exploratory laparotomy for cholecystectomy and liver biopsy could be considered if a more aggressive approach is elected. Without surgery continued medical management of pancreatitis/medical of the gallbladder mucocele if possible with antiemetics, gastroprotectants, appetite

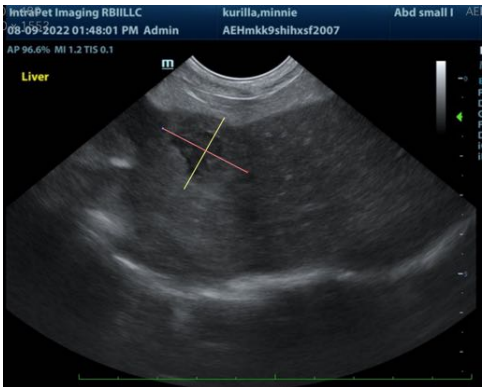
stimulants or nutritional support as needed, pain management, broad spectrum antibiotics, fluid therapy and hepatic nutraceuticals such as Denamarin +/- Ursodiol is recommended.

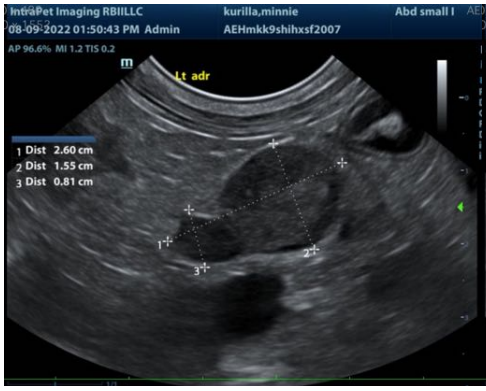
Incidentally hyperadrenocorticism is possible in this patient and ultimately adrenal testing would be required; however, it is not recommended in the face of other acute disease. However, blood pressure measurement is recommended if not recently evaluated.

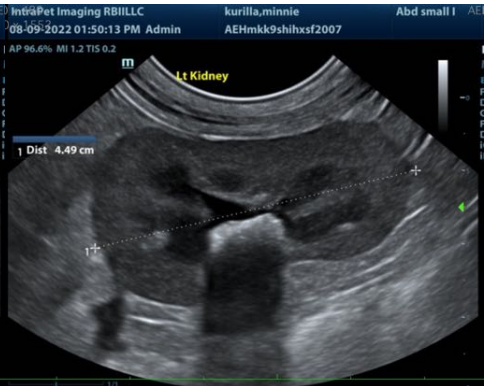


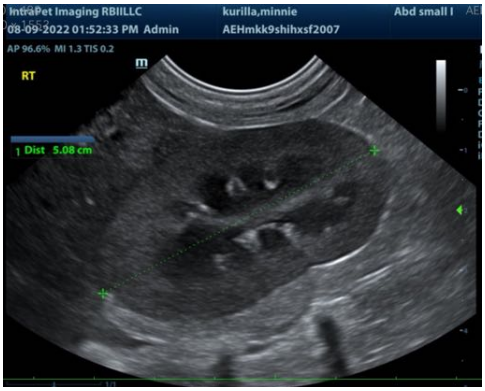


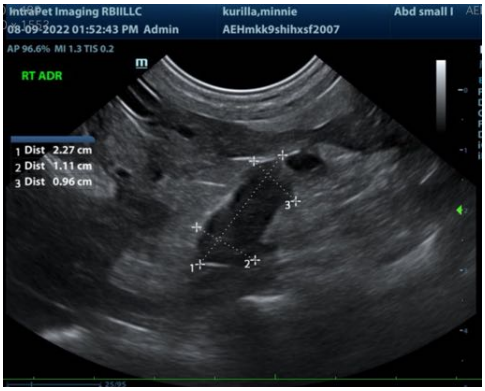


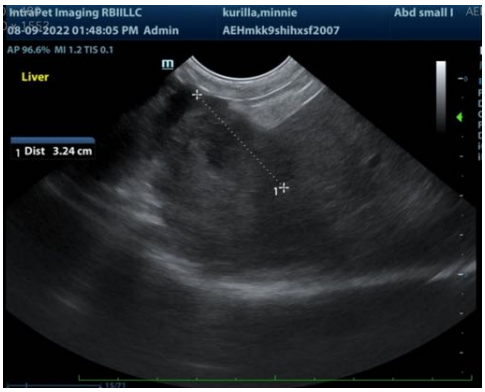


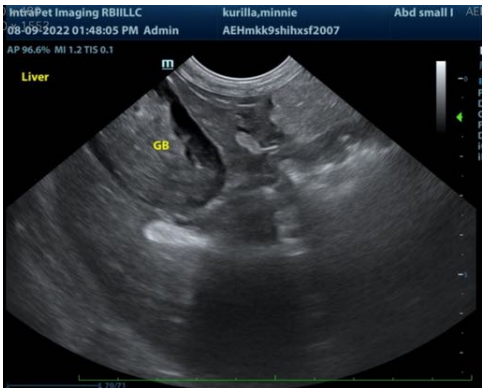


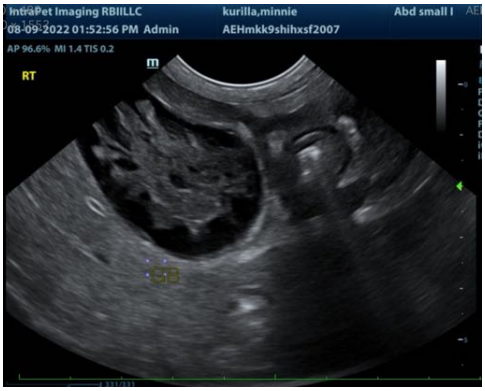


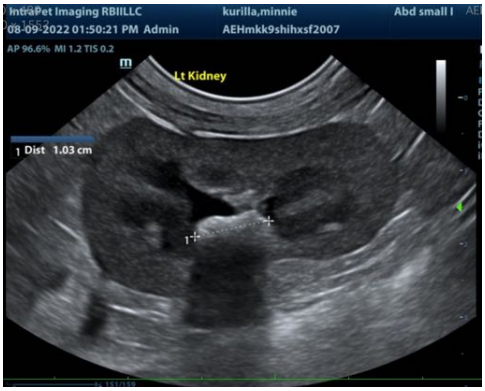












The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
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