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Clinical Sonography & Telecytology
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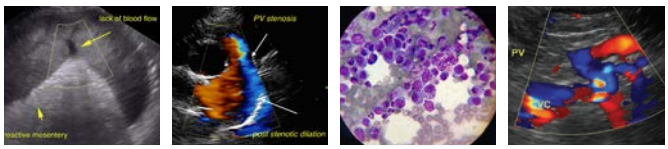

SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT

Jaxon Still

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Neutered Male

AGE

11 Years

WEIGHT

8.6 Pounds

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Legacy Animal Hospital

REFERRING VET

Dr. Kristin Pontenzone

INVOICE

43230

DATE

6/15/23

PRESENTING CLINICAL SIGNS

Patient presents for hypoglycemia, hypocalcemia, and new seizures. Blood sugar is low and currently uncontrolled.

Abnormal PE/Chem/CBC/UA Results: ALT 174, ALP 18, MCV 60, glucose 48, calcium 1.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The prostate is normal in size (0.76 cm) and shape for this neutered male dog. The parenchyma is homogenous and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (3.2 cm) with small nephroliths. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (3.71 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.54 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is normal in size measuring 0.60 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

Liver

The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate to large amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

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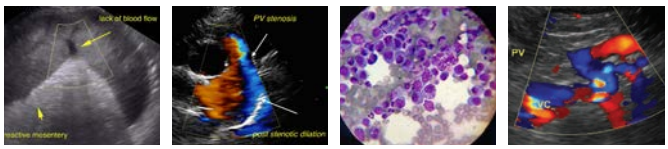

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Gastrointestinal

The stomach contains a large amount of fluid/ingesta and gas. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas appears slightly mottled in the left limb with a slightly prominent pancreatic duct. In the region of the left limb of the pancreas there is a hypoechoic, irregular nodule measuring approximately 1.0 cm x 0.83 cm. This nodule appears to be associated with the pancreas, and there is some ill-defined hypo- and hyperechoic tissue surrounding, which could represent less well-defined areas of the nodule or possible focal pancreatic inflammation in the region. The right limb of the pancreas is largely obscured by shadowing ingesta and gas within the gastric lumen.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

- Irregular, hypoechoic tissue/nodule in the region of the left limb of the pancreas – Given the hypoglycemia reported, an insulinoma would be of concern. Other differentials would include an atypical lymph node, pancreatic inflammation, or other forms of pancreatic neoplasia.
- Large, heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Moderate to large gallbladder debris – The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting but seems unlikely to be causing a current issue. Recommend continued monitoring.
- Large, shadowing ingesta and fluid within the gastric lumen – It is likely that this patient was not fasted, as would be expected in a hypoglycemic patient.

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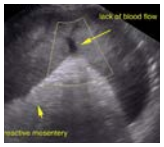
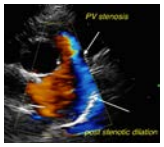
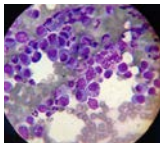
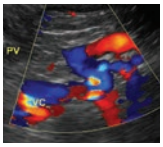

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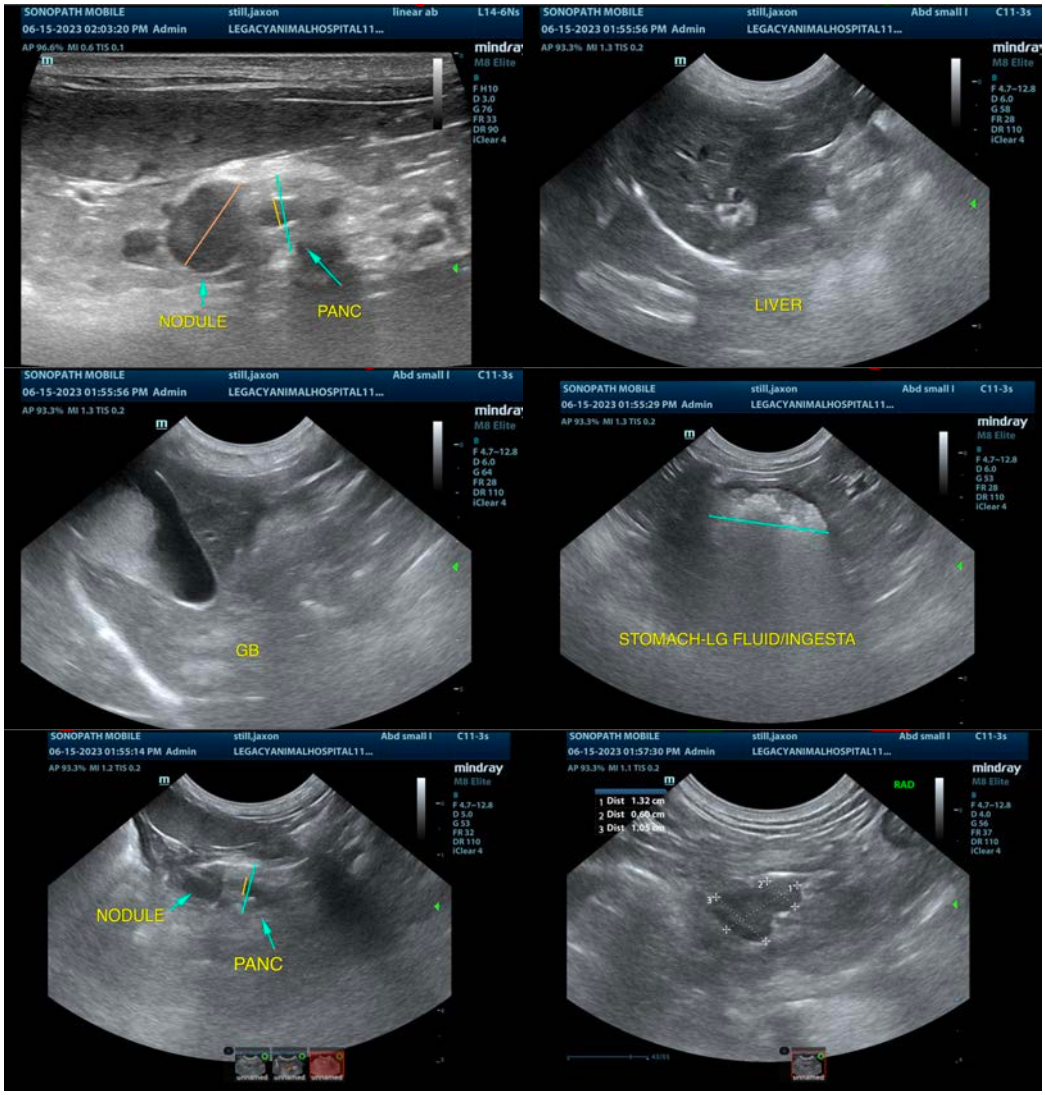
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is atypical tissue visualized in the region of the left limb of the pancreas. Given the hypoglycemia reported, there is significant concern for a possible insulin secreting tumor. Recommend an insulin to glucose ratio when the blood sugar is documented as <50. If the insulin levels are normal to high, this would be diagnostic for an insulinoma. Additionally, I would typically consider evaluation of a liver function test (pre- and post-prandial bile acids) and a baseline cortisol, looking for atypical Addison's.

Much of the right limb of the pancreas is obscured due to shadowing ingesta within the gastric lumen. Ideally, a contrast CT scan would be performed, as this will provide better detail of the abnormalities reported and will be more sensitive in picking up additional pancreatic nodules or small hepatic nodules, etc. These lesions can be benign or neoplastic, and surgical intervention can be very beneficial in patients that do not have significant metastatic disease. Consultation with a veterinary oncologist should be considered if insulin levels are documented to be abnormal.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.



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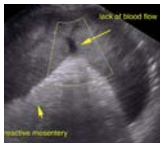
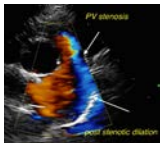
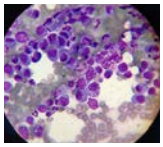
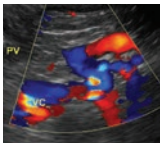

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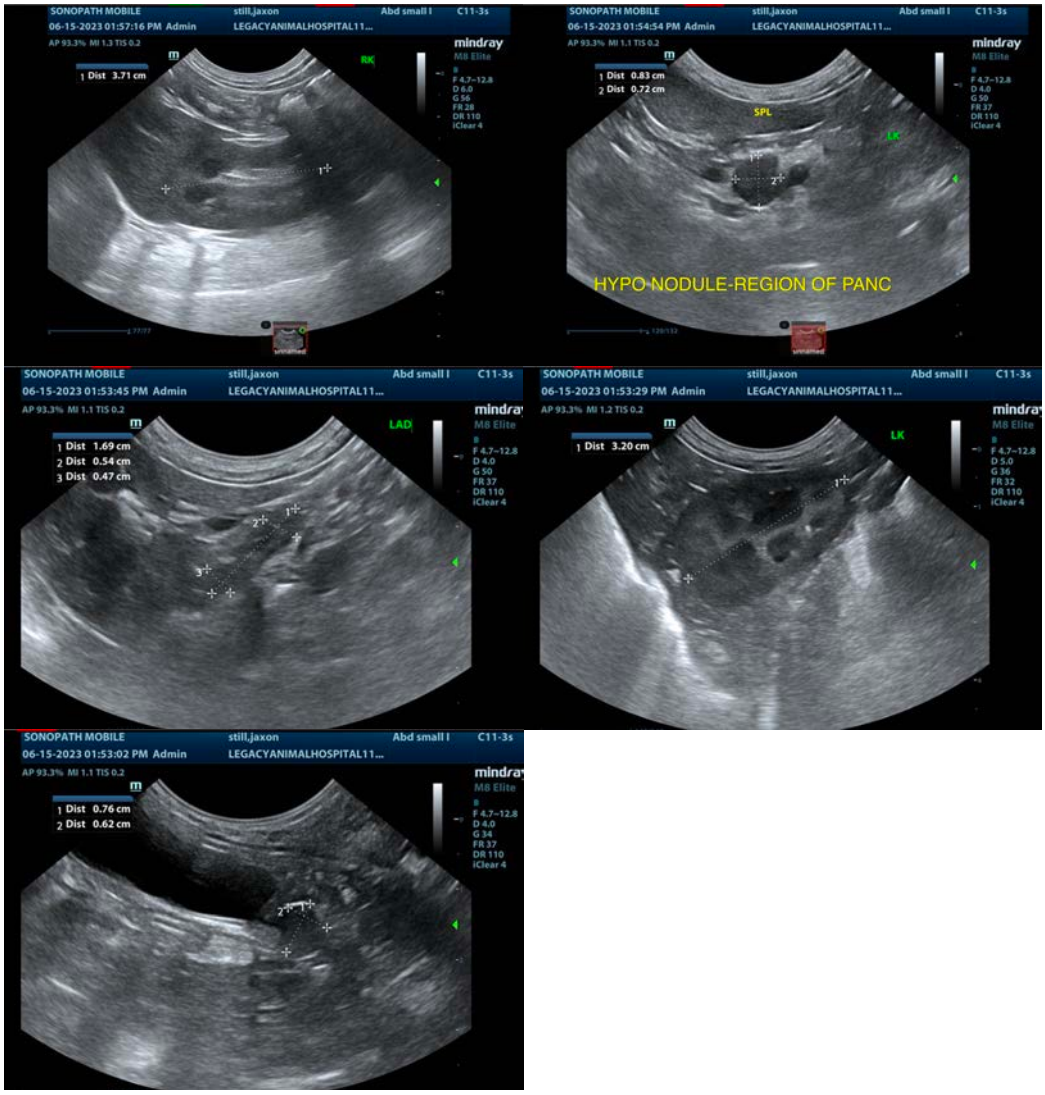

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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