



PATIENT PRESENTING CLINICAL SIGNS

PATIENT Rascal Starr
SPECIES Canine
BREED Australian Shepherd Mix

PRESENTING CLINICAL SIGNS
 History: Weight loss- Lab findings-mild thrombocytopenia, hyperproteinemia, hyperglobulinemia, hepatopathy-improving, hyperbilirubinemia-getting worse DDX-bile duct obstruction, liver failure, neoplasia
 Abnormal PE/Chem/CBC/UA Results: 09/01/2021LABS: ALKP >2000, ALT 592, TBIL 1.0, GLOB 5.1, GGT 13, HCT36.6% 10/7/2021 RECHECK LABS ALKP = 1534 U/L ALT = 499 U/L TBIL = 1.7 mg/dL TP = 8.7 g/dL GLOB = 5.5 g/dL GGT 11 dog has been on Denamarin for a month and very little improvement so AUS advised. Bile Acids pending.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

SEX Neutered Male
AGE 9 years
WEIGHT 42 Pounds

Urinary System
 The urinary bladder is minimally distended with echogenic urine. The bladder wall appears some what thickened and irregular, but it is collapsed and non-distended. There is echogenic, partially, shadowing debris within the urinary bladder lumen. Lack of urine distension impairs evaluation of the proximal urethra and trigone region, but no obvious mass lesions or large calculi are visualized.
 The visualized areas of prostate and surrounding tissue appear normal. Unfortunately, the prostate is not fully visualized likely due to its intrapelvic location. Correlate with rectal exam findings.
 The left kidney has a normal shape and size (6.2 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

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

The right kidney has a normal shape and size (5.57 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

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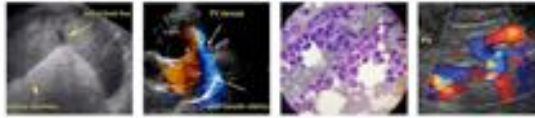
The left adrenal gland is normal in size measuring 0.69 cm at the caudal pole It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.
 The right adrenal gland is normal in size measuring 0.62 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

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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.

DATE 10/28/21



PATIENT *Liver*

Rascal Starr The liver is subjectively normal in size, and 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. There is no focal, large mass effect present, but the liver is diffusely irregular and nodular with irregular margins. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

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Gastrointestinal

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The stomach contains minimal luminal contents. 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.

AGE

9 years

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 (0.55 cm) and the jejunum measured as normal (0.33 cm). Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

WEIGHT

42 Pounds

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.

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Pancreas

The pancreas is prominent and mottled compared to the surrounding isoechoic mesentery. The pancreatic duct measured 0.29 cm. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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Free Abdomen

A small amount of free fluid was noted. There was no significant lymphadenopathy and the omentum is generally of increased echogenicity.

HOSPITAL NAME

Fairgrounds AH

ULTRASONOGRAPHIC FINDINGS

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Dr. Johnson

PRIMARY FINDINGS:

- Severely heterogenous nodular 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. Additionally based on the diffuse nodular characteristics there is concern for possible early cirrhotic type change. Biopsies are strongly recommended.

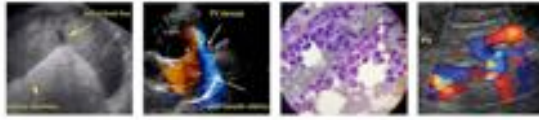
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- Mild gallbladder debris. The significance of the aggregated gallbladder debris is unclear. This



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could represent an early mucocele, cholestasis, or may be secondary to fasting.

Rascal Starr

SECONDARY FINDINGS:

SPECIES

Canine

- Questionable urinary bladder wall thickening. This is very difficult to interpret due to lack of urine distension. Reevaluation with a fuller bladder is recommended.

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- Free fluid in the abdomen. I recommend sampling for fluid analysis and cytology.
- Mottled pancreas. The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

SEX

Neutered Male

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

AGE

9 years

The liver appears grossly abnormal. I recommend screening for infectious disease for vector borne infectious disease through NC State infectious disease panel. I strongly recommend liver biopsy. In patient's with chronic hepatopathy the chronic inflammation can progress to the point of cirrhosis. There is some concern for that, but if a diagnosis can be reached this can be prevented or partially reversed. I recommend checking coagulation profile and three view thoracic radiographs. FNA can rule out round cell neoplasia, but is unlikely to adequately diagnose these other processes. If histopathology is acquired I recommend culture and copper levels as well. I recommend testing for Leptospirosis.

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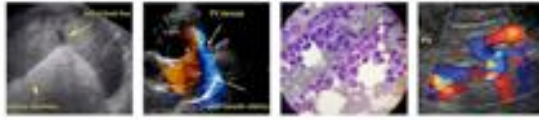
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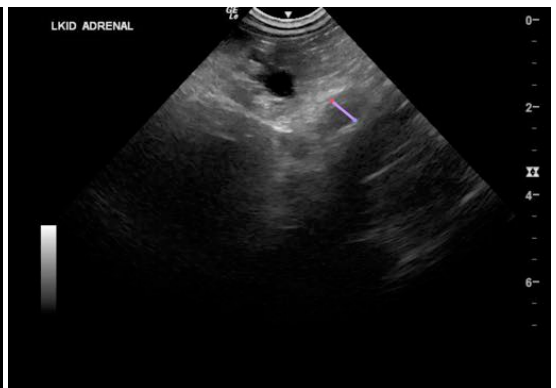
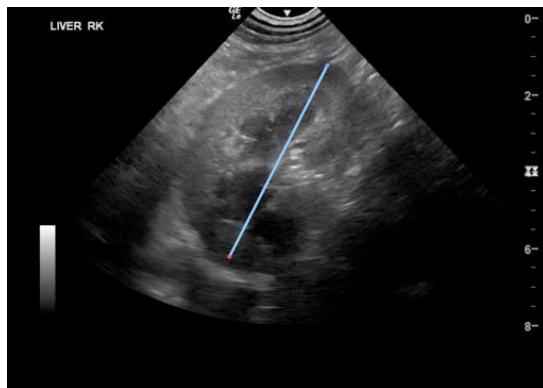
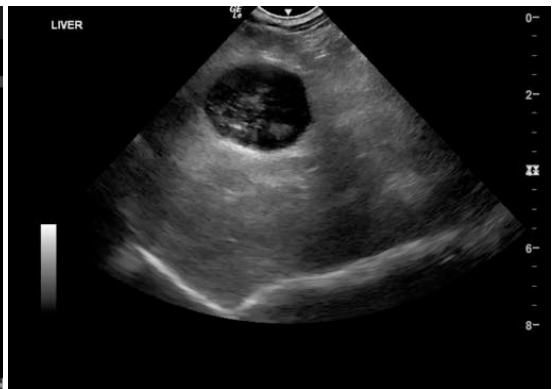
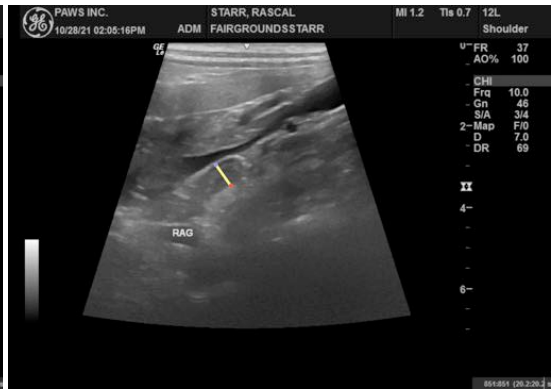
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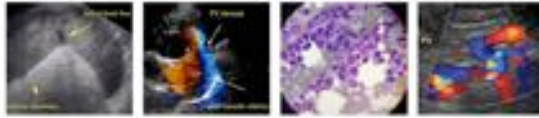
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The information and recommendations provided are based on the images presented by the referring



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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.

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