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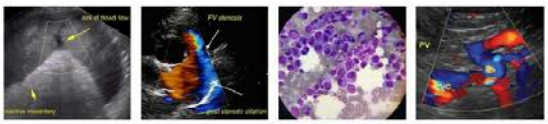

IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Zeus Freeman

SPECIES

Canine

BREED

Mixed Shepherd

SEX

Neutered Male

AGE

9 Years 1 Month

WEIGHT

55 Pounds

INTERPRETED BY

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

IMAGING BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

MountainView AH

REFERRING VET

Dr. Laura Watson

INVOICE

42914

DATE

11/22/22

PRESENTING CLINICAL SIGNS

Patient presented for chronic vomiting over the last 3 weeks, vomiting early in the morning, not food, just liquid per O. No other clinical signs. Patient presents back pain and organomegaly noted upon palpation, unable to identify if liver or spleen is enlarged. Fast scan was performed and a couple of small nodules were noted on spleen and liver. CPL test was normal, mild lymphopenia and mild hypercholesterolemia.

Abnormal PE/Chem/CBC/UA Results: Conclusion RADs 1. Hepatomegaly has differentials of endocrine/metabolic disease (hyperadrenocorticism, vacuolar hepatopathy, etc.), benign hyperplasia, inflammatory disease or neoplasia. 2. Splenic nodules. Ddx: myelolipomas, lymphoid hyperplasia, extramedullary hematopoiesis, neoplasia. 3. Non obstructive gastroenteritis. Given the reported history and non specific small intestinal changes, underlying gastroenteropathy such as inflammatory bowel disease, may be responsible for the reported clinical signs. Ddx: dietary indiscretion, pancreatitis. 4. Normal geriatric thorax.

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 (0.70 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 (5.95 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.

The right kidney has a normal shape and size (6.44 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 0.87 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 0.76 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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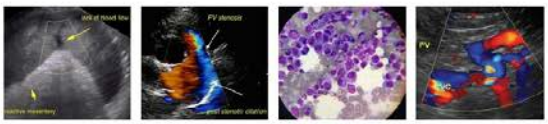

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The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a hypoechoic, somewhat mixed echogenic mass effect towards the caudal third of the spleen, measuring approximately 192 cm x 2.82 cm. Additionally, there is a small hypoechoic nodule visualized measuring 0.53 cm x 0.40 cm.

Liver

The liver is subjectively normal in size, and echogenicity with smooth peripheral margins. The parenchyma is homogenous echotexture. The visible portions of the vasculature and biliary tract appear normal. There is a hyperechoic nodule visualized on the left side of the liver measuring 1.29 cm x 1.65 cm. Additionally, there is a small hyperechoic nodule measuring 0.50 cm.

The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach is moderately dilated with fluid and irregular shadowing material most consistent with normal 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 layering 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. Duodenum wall measures 0.54 cm. Jejunum wall measures 0.36 cm. There is mild mucosla speckling associated with the duodenum. 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 is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. Mesenteric lymph nodes appear normal. One such lymph node measures at 0.63 cm. The omentum is of normal echogenicity.

Other

A brief view of the heart was submitted. No significant pericardial effusion was seen.

ULTRASONOGRAPHIC FINDINGS

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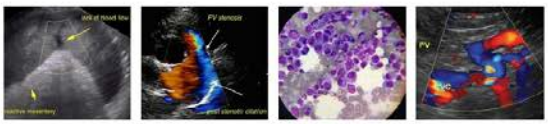

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- Hypoechoic, mixed echogenic splenic mass with a hypoechoic nodule – There are multiple non-cavitated, hypoechoic splenic lesions visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Hyperechoic liver nodules – The appearance of these nodules trends towards a more benign process, although underlying neoplasia cannot be ruled out.
- Moderate gastric dilation with ingesta – This is unusual in an appropriately fasted patient. Consider such differentials as delayed gastric emptying/ileus or a partial outflow tract obstruction (none observed).
- Subjectively thickened small intestine with mild mucosal speckling of the duodenum – Bright mucosal speckling has been postulated to represent dilated lacteals or focal accumulations of mucus, cellular debris, etc.. in the mucosal crypts.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a mixed echogenic small mass effect visualized on the spleen as well as a hypoechoic nodule. These lesions could represent a benign or neoplastic process. Options moving forward would include a fine needle aspirate of these lesions or splenectomy for both diagnostic and therapeutic purposes.

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

Recommend continued monitoring of the hyperechoic nodules in the liver. The appearance trends towards a more benign etiology, but an underlying neoplastic process cannot be ruled out.

The stomach has a moderate amount of ingesta despite an appropriate fasting time. Additionally, the duodenum has mild mucosal speckling. This could be consistent with delayed gastric emptying/mild ileus secondary to underlying GI disease.

You could consider a novel protein/hydrolyzed protein prescription diet, a GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin, and folate. Additionally, if you consider surgery to remove the splenic lesion, recommend evaluation of the stomach and small bowel as well as obtaining GI biopsies, as I suspect the splenic lesion is not associated with the reported vomiting.

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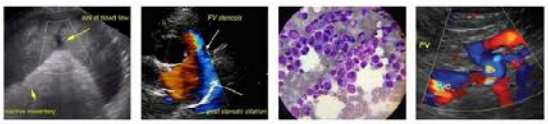

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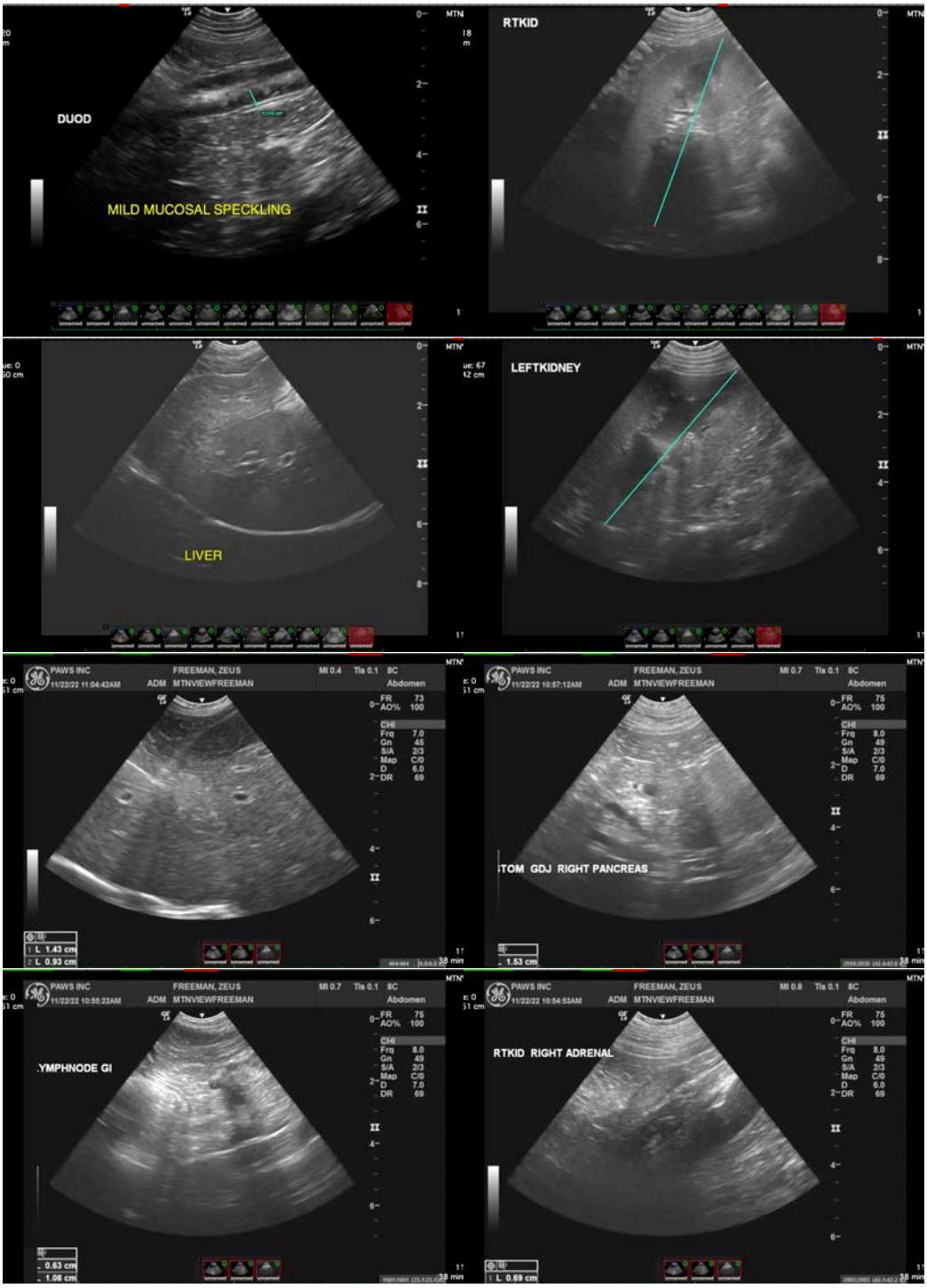

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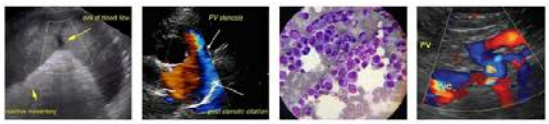

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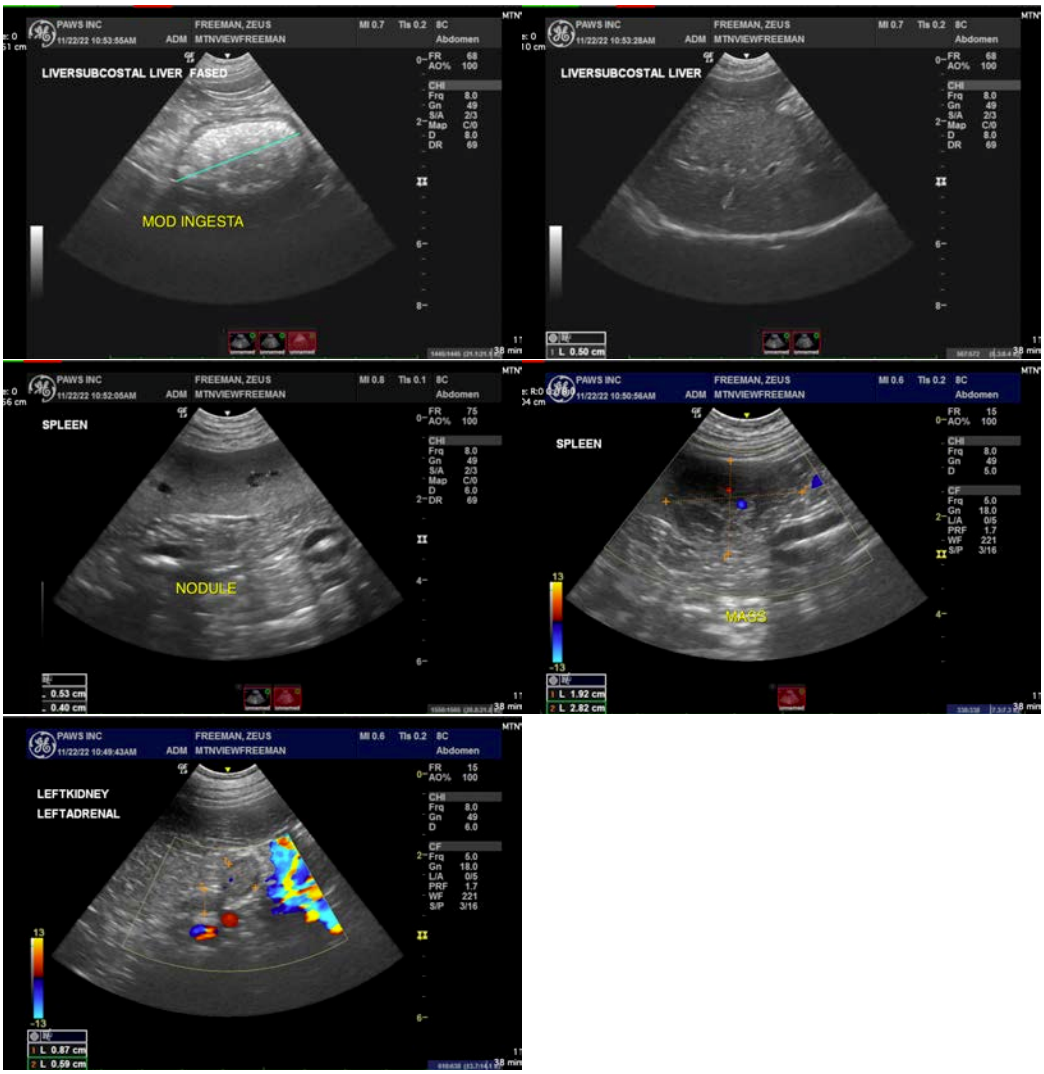

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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