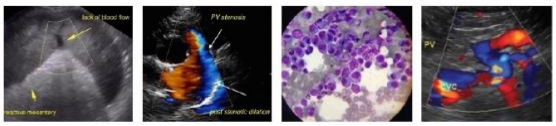


PATIENT

Choco Patel

SPECIES

Canine

BREED

Maltese X

SEX

Neutered Male

AGE

10 Years

WEIGHT

11.6 Years

INTERPRETED BY

Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY

Kelly Reschny

HOSPITAL NAME

East Credit VH

REFERRING VET

Dr. Webster

INVOICE

21317

DATE

2/27/23

PRESENTING CLINICAL SIGNS

History: acute onset of PUPD, inappetence, vomiting and abd distention, no pre significant medical history

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 occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous 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 area of the prostate is examined without any evident prostatic pathology visualized.

Left kidney is normal is size (5.32 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. A hyperechoic band parallel to the corticomedullary border is present. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted.

Right kidney is normal is size (5.5 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. A hyperechoic band parallel to the corticomedullary border is present. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted.

Adrenal Glands

Left adrenal gland is normal in size (3.4 cm long x 0.85 cm at cranial pole and 1.37 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal. A hyperechoic nodule is noted in the caudal pole of the left adrenal gland. Nodule does not disrupt normal shape and/or architecture.

Right adrenal gland is normal in size (3.16 cm long x 1.42 cm at cranial pole and 0.87 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

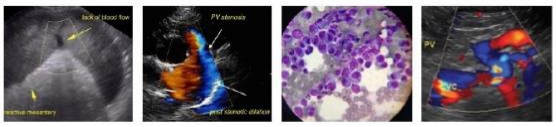
Spleen

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. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is moderately distended with anechoic bile as well as mild to moderate suspended and gravity dependent echogenic debris. Additionally, mineral/sand debris is noted, both dependent and



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adhered to the wall. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

Gastrointestinal

The visible stomach wall is normal in thickness 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. 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 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

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

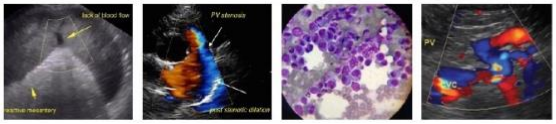
ULTRASONOGRAPHIC FINDINGS

Primary Findings

- Acute pancreatitis
- Bilateral medullary rim sign with bilateral dystrophic mineralization - This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.
- Hyperechoic adrenal nodule in the caudal pole of the left adrenal gland – Differentials include primary adrenal cortical adenoma or adenocarcinoma, pheochromocytoma, myelolipoma, adrenal hyperplasia secondary to pituitary disease or metastatic disease. Ultrasound alone cannot differentiate between functional and non-functional nodules and/or between benign and malignant disease. Small nodules without other evidence of abdominal disease (to suggest metastatic disease) and/or clinical signs (to suggest adrenal disease) are most often incidental and should be monitored.
- Heterogenous Liver – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.

Secondary Findings

- Urinary bladder debris



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- Mild to moderate gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs 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.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of this patients acute gastrointestinal signs appears to most likely be acute pancreatitis. Given the concurrent reported PU/PD, if not recently evaluated, adrenal metabolic health screen is recommended, beginning with a CBC/Chemistry panel, electrolytes and urinalysis and, if indicated based on urinalysis results, urine culture is recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

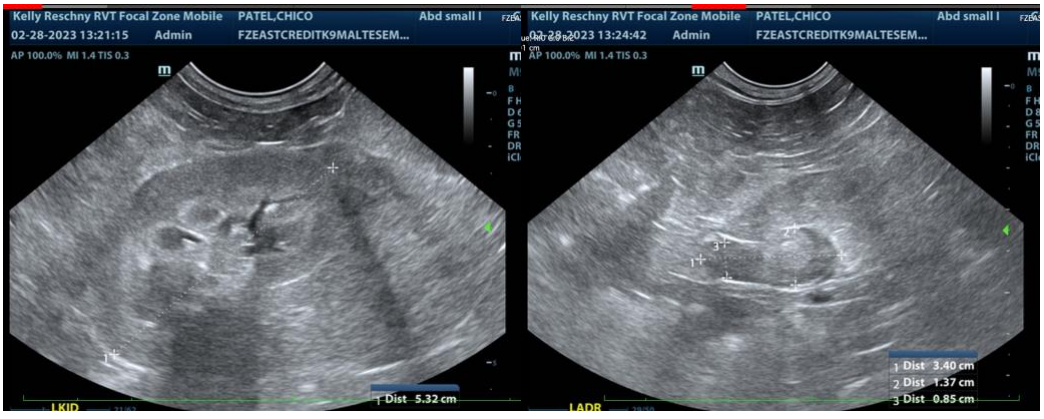
A quantitative PLI is recommended.

In the meantime, medical management of pancreatitis with anti-emetics, gastroprotectants, appetite stimulants or nutritional support as needed, pain management, broad spectrum antibiotics, and fluid therapy is recommended. If possible, a fresh frozen plasma transfusion and hyperbaric oxygen therapy (HBOT) could be beneficial. Monitoring of the pancreas with power doppler is recommended to identify possible necrosis as well as other potential sequelae such as abscesses, etc.

Pending results of the above, combined with patient response, etc., eventually, once patient has returned to normal, if PU/PD and/or other clinical signs of hyperadrenocorticism persist, without another explainable reason, further testing for hyperadrenocorticism could be pursued in the form of a LDDST. However, further work up of hyperadrenocorticism is not recommended without supporting clinical signs and/or in the face of concurrent illness.

After further information, new recommendations include:

I suspect you have a new diabetic and likely DKA. I recommend UA to look for glucosuria +/- ketonuria. It will complicate pancreatitis management, but is likely even more important than the pancreatitis management with short acting insulin while very closely monitoring BGs, ketones and electrolytes (K and phos will drop and likely need supplemented), etc. Once patient is eating and non-ketotic, then you can transition to a longer acting (normal at home) insulin.



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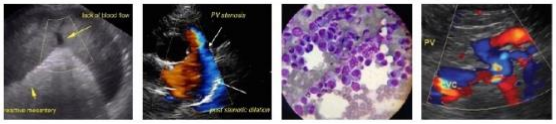

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IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

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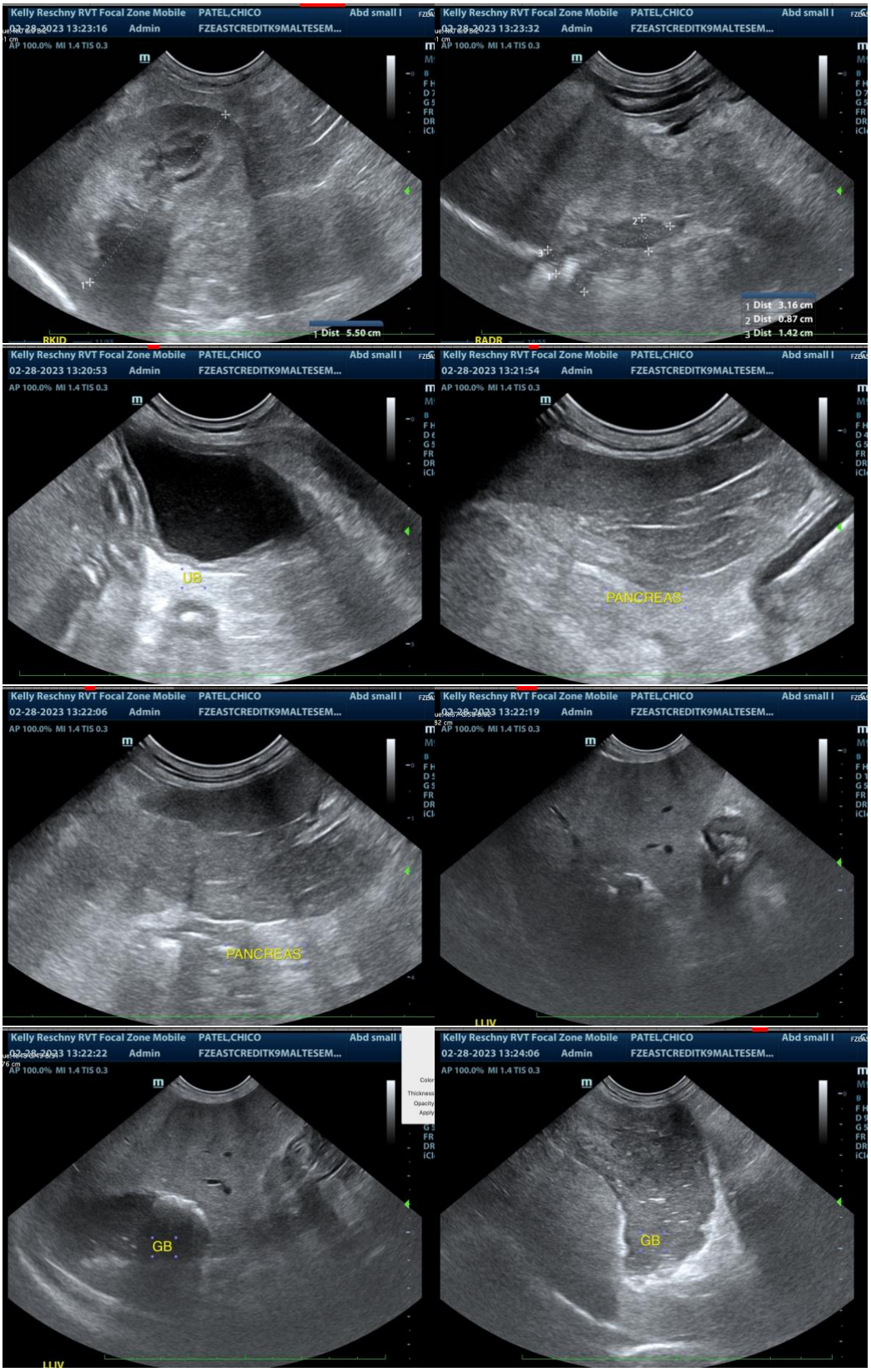
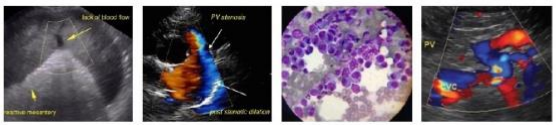


The information and recommendations provided are based on the images presented by the



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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

Beth.Johnson@SonoPath.com