



**PATIENT**

Sandy Bergman

**PRESENTING CLINICAL SIGNS**

History: Increased liver enzymes, increased bilirubin, vomiting. Current meds: Cerenia, Convenia.  
Abnormal PE/Chem/CBC/UA Results: Bili. 5.1, AP 1700, GGT 34, ALT 916. U/A: culture (neg), (+) bili, USG 1.026.

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

*Urinary System*

The urinary bladder and visible portion of the pelvic urethra are normal for the degree of luminal distension. The urine is anechoic with no evidence of debris. Cystic calculi and discrete masses are not observed. The region of the trigone is normal.

**BREED**

Miniature Poodle

**SEX**

Female, spayed

The left kidney is normal in size (2.90 cm in length) with a normal shape, smooth peripheral margins and normal internal architecture. There is mild loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. Mild pyelectasia is present (0.18 cm in the longitudinal plane). There is no evidence of infarcts or hydronephrosis. Renal vasculature is normal.

**AGE**

16 Yrs.

The right kidney is normal size (3.09 cm in length) with a normal shape, smooth peripheral margins and normal internal architecture. There is mild loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. Mild pyelectasia is present (0.16 cm in the longitudinal plane). There is no evidence of infarcts or hydronephrosis. Renal vasculature is normal.

**WEIGHT**

7.1 lbs.

*Adrenal Glands*

The left adrenal gland is normal size (0.39 cm at cranial pole) (0.39 cm at caudal pole) (1.13 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**INTERPRETED BY**

Andrea Nicastro, DVM,  
Diplomate ACVIM  
(*Small Animal Internal  
Medicine*)

The right adrenal gland is normal size (0.50 cm at cranial pole) (0.33 cm at caudal pole) (1.07 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**IMAGING PERFORMED BY**

Kelly Vasquez

*Spleen*

The spleen is subjectively normal in size (1.05 cm in width at the level of the hilus). A 0.89 x 0.88 cm hyperechoic to slightly heterogeneous nodule is observed just proximal to the hilus. The lesion causes mild capsular expansion. The remaining peripheral margins are curvilinear. The remaining parenchyma is relative homogeneous in appearance. Splenic vasculature is normal with no evidence of thrombosis.

**HOSPITAL NAME**

Animal General on  
Hudson

*Liver*

The liver is subjectively normal in size with normal curvilinear peripheral contours. The parenchyma is hypoechoic relative to the spleen and subtly mottled in appearance. A 0.86 x 0.55 cm hypoechoic nodule is observed on the right side. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is distended. The wall is normal in thickness. A moderate amount of aggregated echogenic suspended sludge, some of which is stranding is observed within the lumen. The cystic and common bile ducts are mildly dilated (up to 0.22 cm). An obvious intraluminal obstruction is not identified.

**REFERRING VET**

Dr. Zelinski

**INVOICE**

12439

**DATE**

10/27/21



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## *Gastrointestinal*

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. No obstructive disease is noted.

## *Pancreas*

The body and right limb of the pancreas are prominent to enlarged with irregular peripheral contours. The parenchyma is hypoechoic relative to surrounding omental fat and slightly mottled in appearance. No distinct focal lesions are observed. the pancreatic duct is not overtly dilated. Surrounding mesentery is hyperechoic.

## *Free Abdomen*

There is no obvious evidence of free fluid. The abdominal lymph nodes are normal/not visible.

## ULTRASONOGRAPHIC FINDINGS

### Primary Findings:

- The pancreatic changes are consistent with mild to moderate pancreatitis with regional peritonitis.
- The gallbladder changes could be consistent with cholestasis or early mucocele formation.
- Non-specific diffuse hepatopathy. Differentials include inflammatory/immune mediated disease, hepatotoxicosis (i.e., copper), infiltrative neoplasia (unlikely), other hepatopathy +/- concurrent age-related changes.
- The splenic nodule is concerning for a neoplastic process. However, benign pathology (i.e., a focus of lymphoid hyperplasia or extramedullary hematopoiesis cannot be excluded.

### Secondary Findings:

- Bilateral age-related renal pathology with dystrophic mineralization and mild pyelectasia.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Supportive care for pancreatitis is recommended including IV fluid therapy, gastric protectants, antiemetics, pain medication as needed, +/- fresh frozen plasma. Also consider empirical treatment for cholangiohepatitis/cholecystitis with broad spectrum antibiotics +/- Denamarin.
- If the patient's clinical signs do not improve with aggressive supportive care or if the total bilirubin continues to increase, an abdominal exploratory with liver biopsies, aerobic and anaerobic bile cultures +/- a cholecystectomy may be warranted. Although Leptospirosis is considered a less likely differential, consider further testing (i.e., blood and urine PCR, serology) based on index of suspicion.
- Given the splenic nodule, three-view thoracic radiographs are recommended to assess for pulmonary metastatic disease. If accessible, the splenic nodule can be aspirated using a 25-gauge needle. Clotting status (i.e., PT, PTT, platelet count) should be evaluated prior to aspiration. If the lesion is not aspirated at this time, a recheck ultrasound is recommended in 3-4 weeks to assess for progression.



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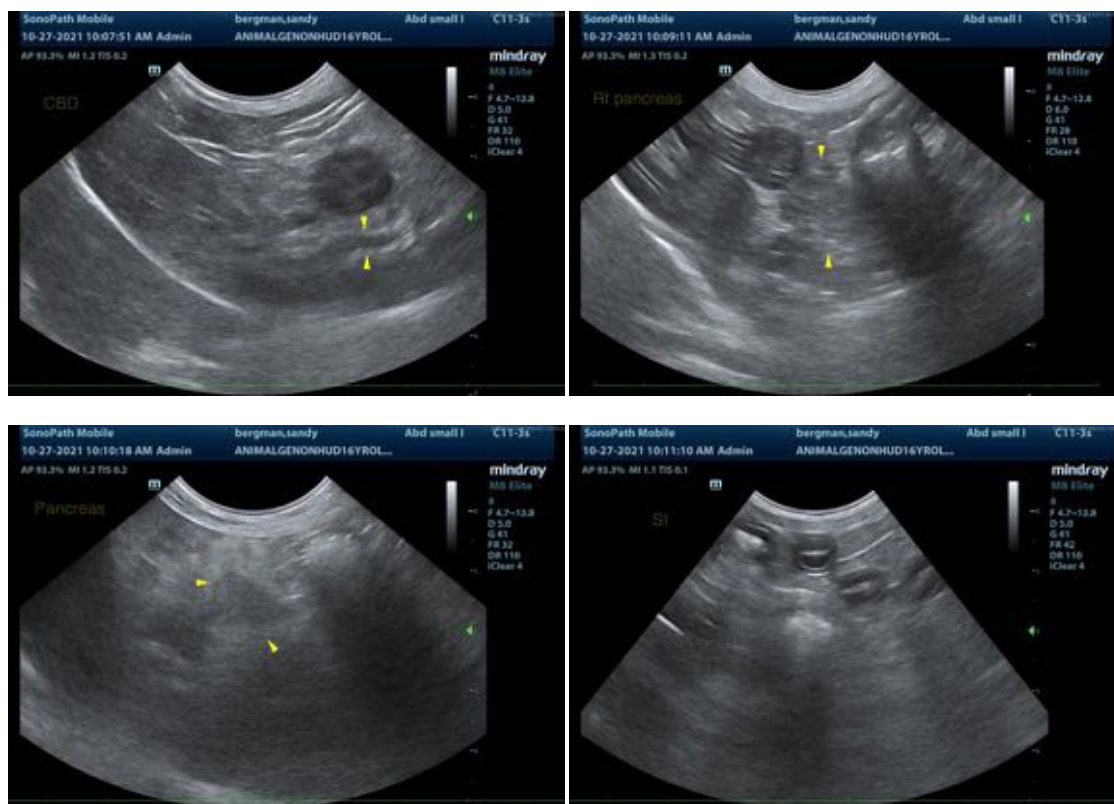
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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