



## PATIENT

Luna Mock

## SPECIES

Canine

## BREED

Pomeranian

## SEX

Intact Female

## AGE

2 Years

## WEIGHT

3 kg

## INTERPRETED BY

Tam Mengine, DVM,  
DABVP (canine/feline  
practice)

## IMAGING PERFORMED BY

Dr. Meghan Myers

## HOSPITAL NAME

Hershey Animal  
Emergency Center

## REFERRING VET

Dr. Brittany Lang

## INVOICE

73893

## DATE

3/21/26

## PRESENTING CLINICAL SIGNS

History of tick bite that caused rash. Previous liver enzyme elevations (historical finding). GI symptoms in January. Previously tested for Lyme disease. Current signs: persistent crying, restlessness, inability to settle or sleep, appears uncomfortable. Client reports missing work and sleep due to patient's condition lasting over three months. Received anti-nausea medication and buprenorphine in last 24 hours. 5-6%, tacky mm +/- some change in skin turgor.

Abnormal PE/Chem/CBC/UA Results: CBC - Unremarkable Chem 15 - Unremarkable EPOC - pO2 57.2 (H), pH 7.347 (L), BE -6.4 (L) Pancreatic lipase - 79 (n) Conclusions: No obvious cause for the reported clinical signs is identified. Consider gastroenteritis/enterocolitis (dietary indiscretion, infection, toxin, metabolic) or pancreatitis. No obvious evidence of gastrointestinal obstruction is identified Unremarkable thorax.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The urinary bladder is moderately distended with anechoic urine. The ureteral papillae, trigone and pelvic urethra are of normal appearance, and the ureters are not visible (normal). There is a shadowing uroliths present, measuring up to 2.5 mm. The wall is normal. No masses are noted. Urethra visualized to 3.0 cm.

The kidneys exhibit adequate corticomedullary differentiation. There are small, non-obstructed nephroliths present within the corticomedullary region of both kidneys. There is no evidence of pyelectasia or hydronephrosis. The proximal ureters are not visible (normal). Left kidney measures 2.77 cm. Right kidney measures 3.0 cm.

### Adrenal Glands

The adrenal glands are both identified in their normal locations. They are normal in size and shape with appropriate parenchymal echogenicity and normal phrenic vasculature. Left measures 3.1 mm at the cranial pole and 3.6 mm at the caudal pole. Right measures 4.5 mm at the cranial pole and 5.5 mm at the caudal pole.

### Spleen

The spleen is of appropriate size and has a normal, homogenous parenchyma with a smooth, continuous capsular surface. The splenic vasculature is normal with no evidence of congestion or thrombosis, and blood flow through the splenic hilus appears normal.

### Liver

The liver is subjectively mildly reduced in size with appropriate shape, sharp borders and a mildly coarse parenchymal echotexture that is hypoechoic to the spleen. The portal and hepatic vasculature are of normal size and appearance with no evidence of congestion or thrombosis. The portal vein and caudal vena cava are clearly visualized and exhibit an approximately 1:1 ratio in diameter.

The gallbladder wall is thickened with a hypoechoic line between wall layers, consistent with wall edema. There is no evidence of rupture. The gallbladder is moderately distended with anechoic contents and a small amount of freely moveable echogenic sludge. The cystic and common bile ducts are normal / not visible.



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## Gastrointestinal

The stomach is moderately distended with gas. The gastric wall is 3.8 mm with normal deviations due to rugal folds, and exhibits appropriate wall layering. The pylorus is of normal appearance.

The visualized portions of the duodenum, jejunum, and ileum are of normal thickness with intact wall layering that exhibits the appropriate 1:3 muscularis to mucosa ratio. Intestinal motility appears normal.

The visible portions of the colon are of normal thickness (1.4 mm) with intact wall layering. The ileocecal junction is not seen.

## Pancreas

The areas of the limbs and body of the pancreas are isoechoic to the surrounding mesenteric fat, with normal capsular appearance. There is no evidence of peripancreatic inflammation. The pancreatic duct appears normal.

## Free Abdomen

There is no evidence of free fluid within the peritoneal cavity. The omentum and intra-abdominal fat are of appropriate echogenicity. Enlarged abdominal lymph nodes are not observed. The aortic trifurcation has normal blood flow with no evidence of thrombosis.

## PRIMARY FINDINGS

- Small nephroliths and single bladder urolith.
- Gallbladder wall edema.
- Subjectively mildly reduced hepatic volume.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is no clear portosystemic shunt on today's ultrasound, and the normal portal vein to vena cava ratio rules out most extrahepatic shunts. Bile acid testing is recommended, and if significantly elevated as would be expected with shunt, then additional imaging such as CT angiography may be necessary for definitive diagnosis. If the bile acids are moderately elevated, this may be more consistent with portal vein hypoplasia.

The gallbladder wall edema would be considered incidental if the patient has been sedated with Dexmedetomidine. Otherwise, it may indicate gallbladder inflammation or anaphylaxis, or potentially right heart failure, though that is deemed very unlikely given the clinical history.

If bile acids are normal and the patient is producing and passing nephroliths, this may be an explanation for the patient's discomfort. Feeding a high moisture diet with added water may be helpful in reducing nephrolithiasis.

The bladder stone is very small and may pass on its own. However, if the patient develops lower urinary tract symptoms or evidence of obstruction, cystotomy may be needed.



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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.

**Tam Mengine, DVM, DABVP (canine/feline practice)**

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