



**PATIENT**

Ryia Jouvelakas

**SPECIES**

Canine

**BREED**

Miniature Schnauzer

**SEX**

Spayed Female

**AGE**

11 Years 1 Months

**WEIGHT**

21.8 lbs

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Kathleen Byrnes

**HOSPITAL NAME**

Armstrong Animal  
 Clinic

**REFERRING VET**

Dr. Gallagher

**INVOICE**

72284

**DATE**

12/3/25

**PRESENTING CLINICAL SIGNS**

P presented for US due to elevated liver enzymes. P has history of bladder stones. rdvm rec start with US to evaluate adrenals and liver then consider LDDST.

**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, or masses. In the dependent portion of the urinary bladder there is focal hyperechoic shadowing material most consistent with mineralized debris/small stones.

The left kidney has a normal shape and size (5.06 cm) with occasional pinpoint non-obstructive nephroliths. 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, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.21 cm) with occasional pinpoint non-obstructive nephroliths. 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, infarcts or hydroureter. Renal vasculature is normal.

**Adrenal Glands**

The left adrenal gland is normal in size measuring 0.53 cm at the cranial pole and 0.45 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 0.64 cm at the cranial pole and 0.46 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.

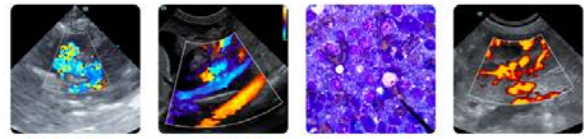
**Spleen**

The spleen is subjectively normal in size (1.3 cm), 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.

**Liver**

The liver is large in size, and normal in 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. No focal nodules or cystic lesions are observed.

The gall bladder lumen is moderately distended. The gallbladder wall appears slightly prominent, measuring at 0.25 cm. 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***

The stomach contains moderate fluid/ingesta. It measures at a normal thickness of 0.41 cm 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.

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 0.32 cm. Jejunum wall measures 0.25 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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***

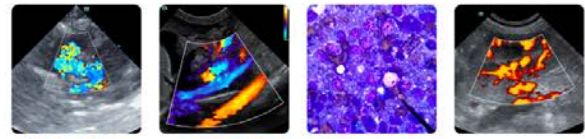
The right limb of the pancreas is prominent and hypoechoic as compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

***Free Abdomen***

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. No significant lymphadenopathy. An iliac lymph node is prominent measuring 0.37 cm. A portal lymph node is prominent measuring 0.52 cm. The omentum is of normal echogenicity.

**ULTRASONOGRAPHIC FINDINGS**

- Dependent mineralized debris/small stones in the urinary bladder – Correlate with urinalysis, culture and radiographs to determine the number and size of mineralizations present.
- Small, non-obstructive nephroliths visualized in both kidneys
- Pancreatic changes most consistent with chronic pancreatic remodeling.
- Large, heterogeneous 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.
- Mildly prominent/thickened gallbladder wall – Findings could be consistent with anatomic variation or mild cholecystitis.
- Moderate fluid visualized within the gastric lumen – Correlate with feeding history. If the patient was adequately fasted this could represent delayed gastric emptying or partial outflow tract obstruction (none visualized).
- Occasional prominent abdominal lymph nodes/particularly portal – Findings are most consistent with reactive lymph nodes. Recommend continued monitoring, as an early neoplastic process cannot be ruled out.



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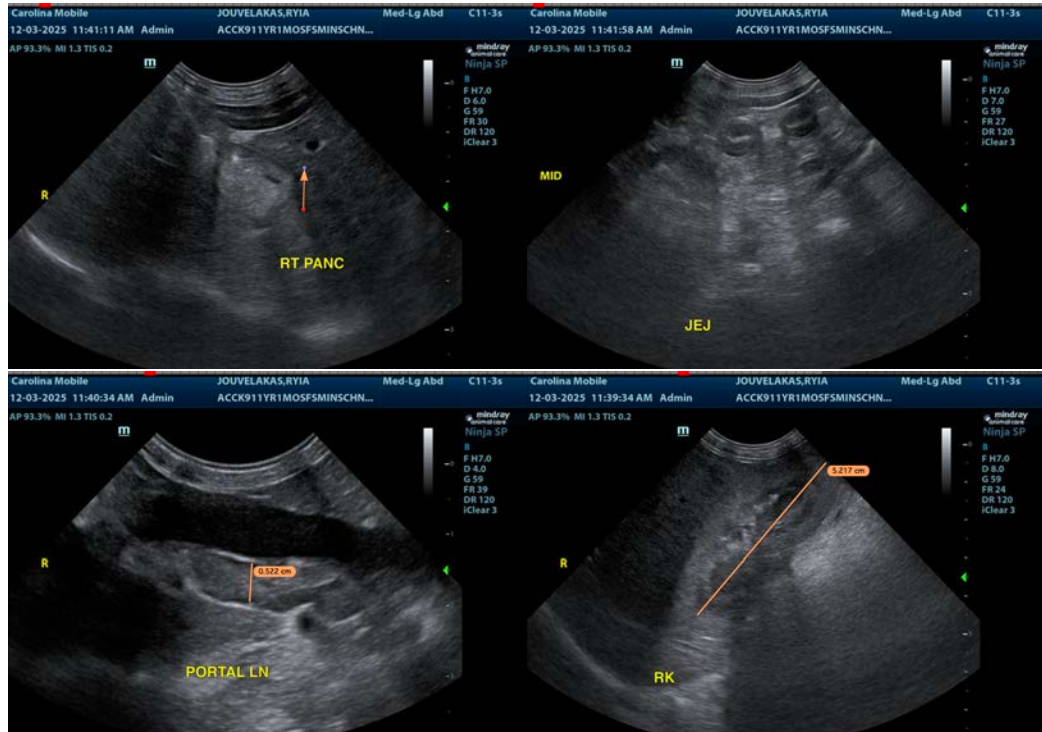
**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

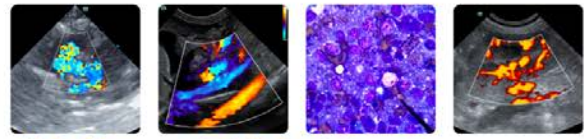
There is a small amount of dependent mineralized debris visualized in the urinary bladder and small nephroliths in both kidneys. Correlate with urinalysis, culture and radiographs to better assess the size of the stones present, and if there is concurrent infection, etc.

The liver is large and heterogeneous. Depending on which liver enzymes are elevated and the degree of elevation, a primary hepatopathy would be most likely, although the gallbladder wall is slightly prominent. If clinically appropriate, you could consider a trial treatment for cholecystitis with a course of Ursodiol, Denamarin +/- antibiotics.

Additionally, a liver function test and a fine needle aspirate of the liver may be helpful. If liver enzyme elevations are progressive or function is abnormal then a biopsy (histopathology, copper levels, cultures) may be recommended.

Continued monitoring of the prominent portal LN is recommended.





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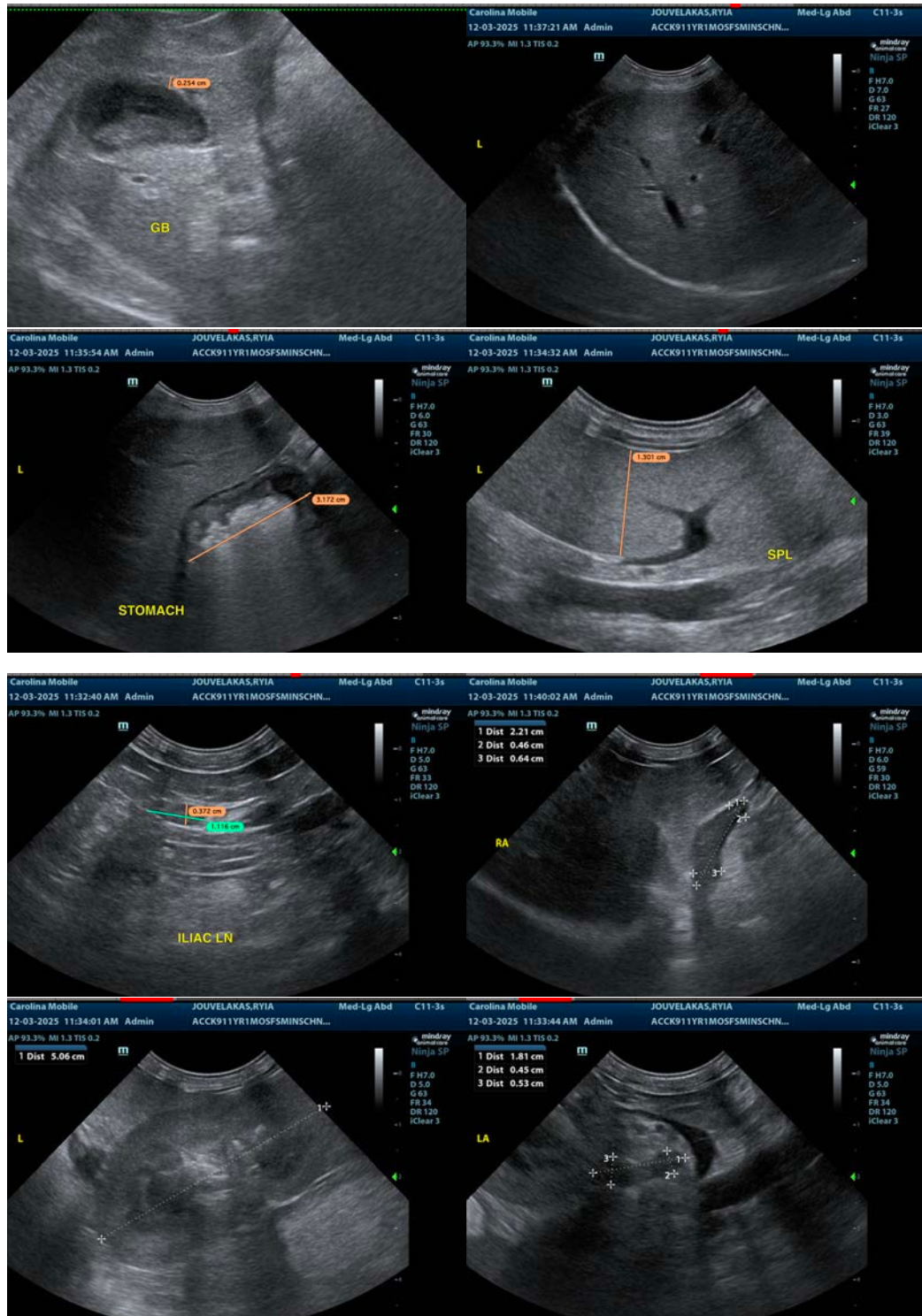
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

info@sonopath.com