



**PATIENT PRESENTING CLINICAL SIGNS**

Kerry Hyland  
Jaundiced, vomiting, on/off appetite.

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Feline

**Urinary System**

**BREED**

DSH

The urinary bladder is minimally distended with mildly echogenic 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.

**SEX**

Spayed Female

The left kidney has a normal shape and size (4.1 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.

**AGE**

9 Years

The right kidney has a normal shape and size (4.45 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.

**WEIGHT**

4.16 kg

**Adrenal Glands**

**INTERPRETED BY**

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

The left adrenal gland is normal in size measuring 0.33 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 0.49 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.

**IMAGING PERFORMED BY**

Kelly Reschny

**Spleen**

**HOSPITAL NAME**

Downtown AH

The spleen is subjectively normal in size (0.90 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.

**REFERRING VET**

Dr. Ahn

**Liver**

The liver is subjectively normal in size, and 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. Dilated intrahepatic bile duct noted.

**INVOICE**

47025

**DATE**

5/2/23

The gall bladder is large. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a mild amount of non-organized echogenic debris. The cystic and common bile ducts appear severely dilated and tortuous, measuring approximately 0.72 cm at the level of the liver. Distally, dilation continues with the bile duct reaching approximately 1.5 cm in dilation with a thickened wall and a large amount of intraluminal debris, terminating at a 0.55 cm focal mineralization, most consistent with a stone at the duodenal papilla.



**PATIENT** *Gastrointestinal*

Kerry Hyland The stomach contains minimal luminal contents. It measures at a normal thickness of <0.36cm 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.

**SPECIES**

Feline 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. Jejunum wall measures 0.21 cm. Duodenum wall measures 0.27 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

**BREED**

DSH

**SEX**

Spayed Female

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.

**AGE**

9 Years

*Pancreas*  
The pancreas is prominent and mottled 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.

**WEIGHT**

4.16 kg

*Free Abdomen*

There is a scant amount of free abdominal fluid. No lymphadenopathy. The omentum is severely hyperechoic in the cranial abdomen around the bile duct.

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(Small Animal Internal  
Medicine)

**PRIMARY FINDINGS**

- Mildly echogenic debris in an almost empty urinary bladder – The echogenic debris in the bladder lumen could be consistent with cells, crystals, and/or mucus.
- Heterogeneous liver with dilated intrahepatic bile ducts – 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.
- Severely dilated cystic and common bile duct with a stone/mineralization visualized at the level of the duodenal papilla – Findings are most consistent with a biliary obstruction.

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**SECONDARY FINDINGS**

- Prominent, mottled pancreas – The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.

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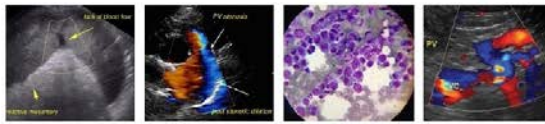
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There is a focal hyperechoic shadowing structure visualized in the region of the duodenal papilla. The bile duct is dilated with a thickened wall and a large amount of intraluminal debris. This dilation progresses to the level of the stone, most consistent with an obstruction. Options moving forward could include (depending on how stable the patient is):

Consider medical therapy with antibiotics and an anti-inflammatory dose of steroids (Prednisolone at 0.25-0.50 mg/kg per day) for 24-48 hours to see if this alleviates the obstruction, with follow up ultrasound imaging and bloodwork within 24-48 hours. Alternately, you could consider referral to a surgeon for surgical exploration, and hopefully resolution of the obstruction. A contrast CT scan could



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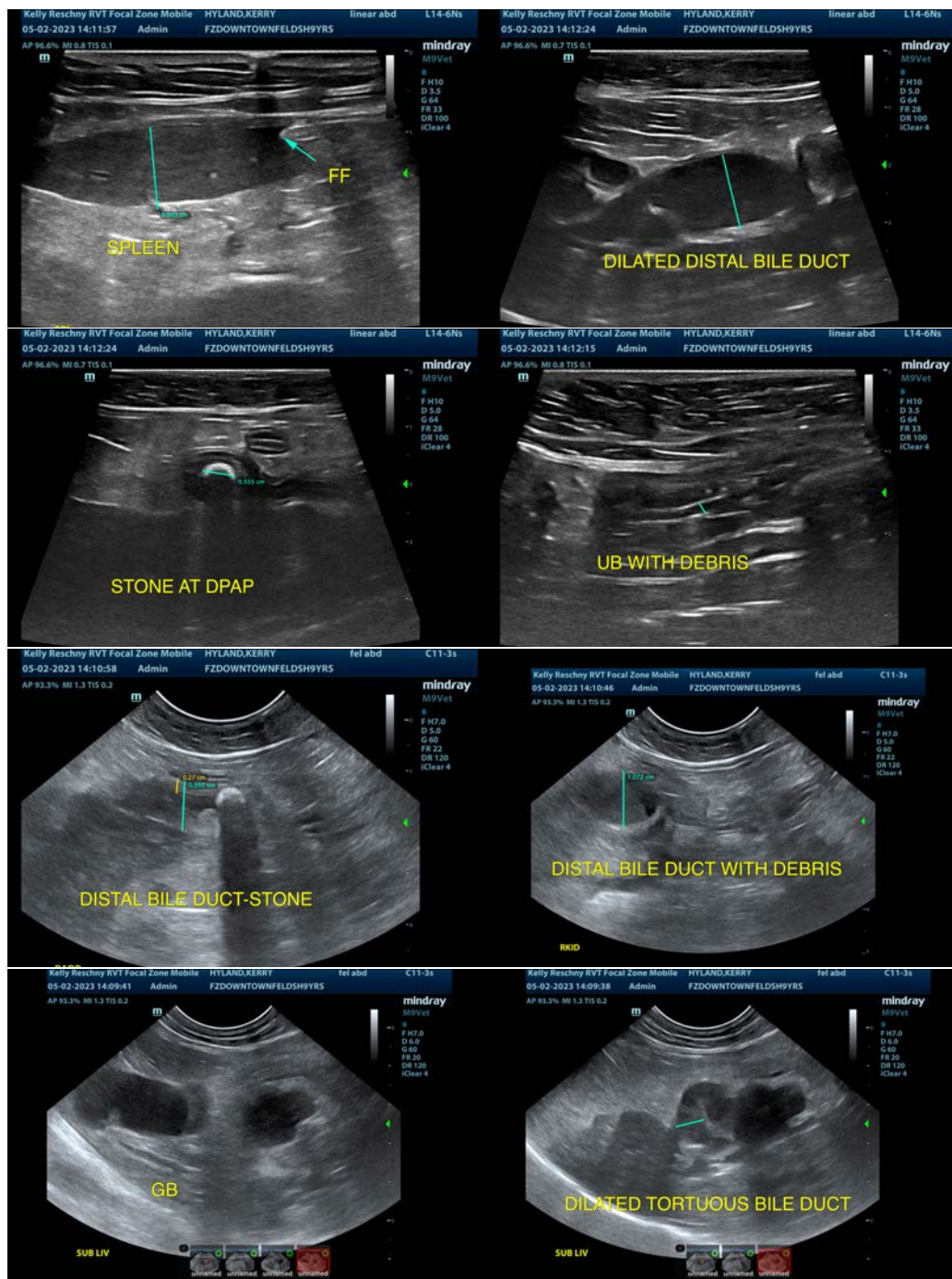
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be considered prior to surgery, or this area could be evaluated at the time of surgery. Recommend confirming normal coagulation parameters prior to considering surgery. Unfortunately, a mass effect or neoplastic process cannot be definitively ruled out as a possible complicating factor. Recommend cultures and biopsies if surgery is pursued.

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





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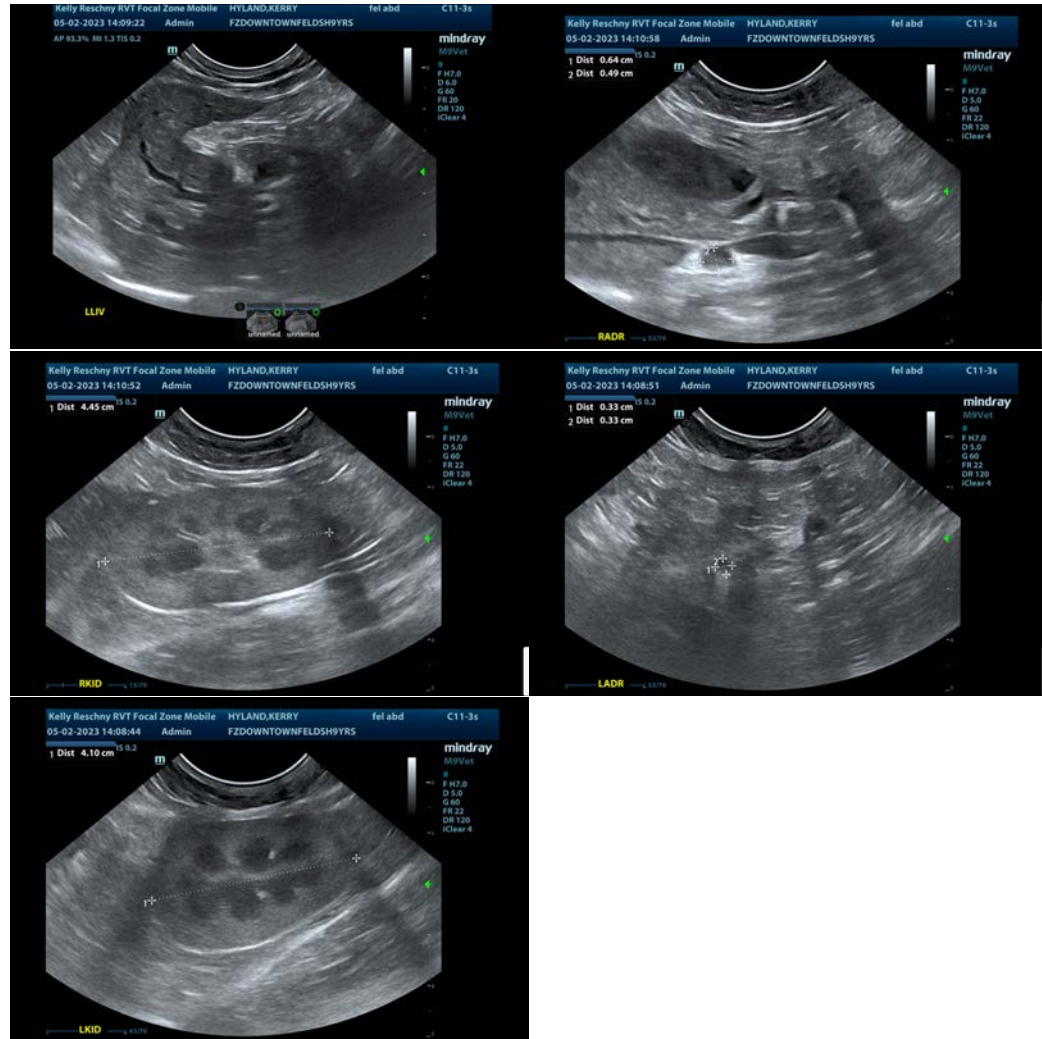
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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