



**PATIENT**

Sophie Jones

**SPECIES**

Canine

**BREED**

Puggle

**SEX**

Spayed Female

**AGE**

10 Years

**WEIGHT**

74 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Dr. Waffle

**HOSPITAL NAME**

Torch Lake VC

**REFERRING VET**

Dr. Waffle

**INVOICE**

35551

**DATE**

2/9/22

**PRESENTING CLINICAL SIGNS**

Hx of suspected bladder cancer several years with resolution. Owner requested full abdominal ultrasound  
Abnormal PE/Chem/CBC/UA Results: BCS 8/9 Heart and lungs auscultate WNL

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The right kidney is normal in size (5.18 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, mineral or infarcts observed.

The left kidney is normal in size (4.55 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, mineral or infarcts observed.

**Adrenal Glands**

The right adrenal gland is normal at the caudal pole, which measures 1.0 cm. The cranial pole cannot be discretely visualized, but there is no pathology in the area of the right adrenal gland.

The left adrenal gland is normal in size (2.0 cm long x 0.59 cm at the cranial pole and 0.60 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**Spleen**

The 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. Margins are smooth but round. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

The gallbladder is moderately distended with organized, aggregated and centralized non-gravity dependent sludge. Striations of sludge separated by anechoic areas are noted extending from the lumen to the luminal wall. The wall is smooth without visible thickening. There is no evidence of CBD dilation. A scant amount of free fluid is noted around the gallbladder.

**Gastrointestinal**

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) 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 (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm), except for the duodenum, which is mildly thick, measuring



<b>PATIENT</b>	0.53 cm in diameter with echogenic mucosal speckling. 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.
Sophie Jones	
<b>SPECIES</b>	The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.
Canine	<b>Pancreas</b>
<b>BREED</b>	The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.
Puggle	<b>Free Abdomen</b>
<b>SEX</b>	There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.
Spayed Female	<b>ULTRASONOGRAPHIC FINDINGS</b>
<b>AGE</b>	<ul style="list-style-type: none"> <li>Gallbladder mucocele – GB findings are most consistent with a mucocele.</li> <li>Scant amount of free fluid around the mucocele.</li> <li>Hyperechoic hepatomegaly – most consistent with benign steroid (endocrine) hepatopathy or reactive or idiopathic hepatopathy. Infiltrative neoplasia such as round cell neoplasia is also possible, but considered less likely.</li> <li>Mildly thick duodenum with echogenic mucosa, which has been associated with inflammatory bowel disease of varying types. Normal patient variant is also possible, and this finding should be interpreted in combination with gastrointestinal clinical signs.</li> </ul>
10 Years	
<b>WEIGHT</b>	
74 Pounds	
<b>INTERPRETED BY</b>	<b>INTERPRETATION OF THE FINDINGS &amp; FURTHER RECOMMENDATIONS</b>
Beth Johnson, DVM DACVIM	Given this patient’s liver and gallbladder findings combined with the mildly enlarged caudal pole of the right adrenal gland, hyperadrenocorticism should be considered. If there are clinical signs of polyuria, polydipsia, polyphagia, panting, etc., testing for hyperadrenocorticism in the form of a low-dose Dexamethasone suppression test is warranted.
<b>IMAGING PERFORMED BY</b>	Given the duodenal changes, if there are any gastrointestinal signs such as intermittent vomiting, diarrhea, weight loss, etc., gastrointestinal malabsorption panel including TLI, PLI, folate and cobalamin to Texas A&M GI laboratory is recommended.
Dr. Waffle	This patient’s gallbladder is consistent with a mucocele, and the scant amount of free fluid around it indicates possible focal inflammation secondary to the mucocele. A surgical cholecystectomy would be a reasonable next step with concurrent liver biopsy and gastrointestinal biopsies of any abnormal bowel loops at the time of surgery.
<b>HOSPITAL NAME</b>	If there are no clinical signs of mucocele such as vomiting, inappetence, cranial abdominal pain, etc., and/or no laboratory abnormalities such as increased Alk Phos or Total Bilirubin, a medical management approach could potentially delay surgery in the form of Ursodiol and close monitoring for the development of either clinical signs, laboratory changes, and/or further ultrasonographic progression. If surgery is postponed, it is important to educate the client about possible spontaneous gallbladder perforation/rupture.
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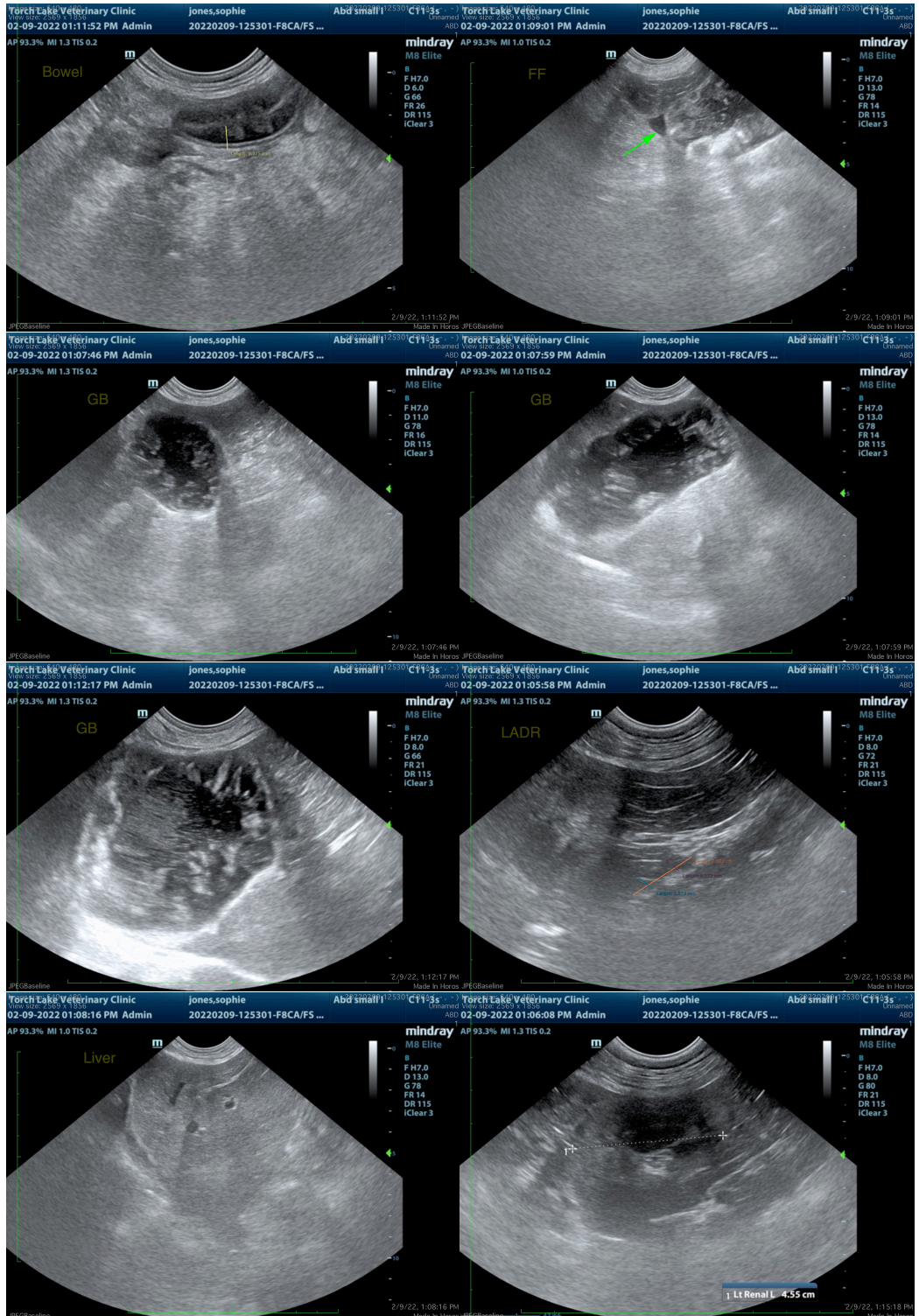
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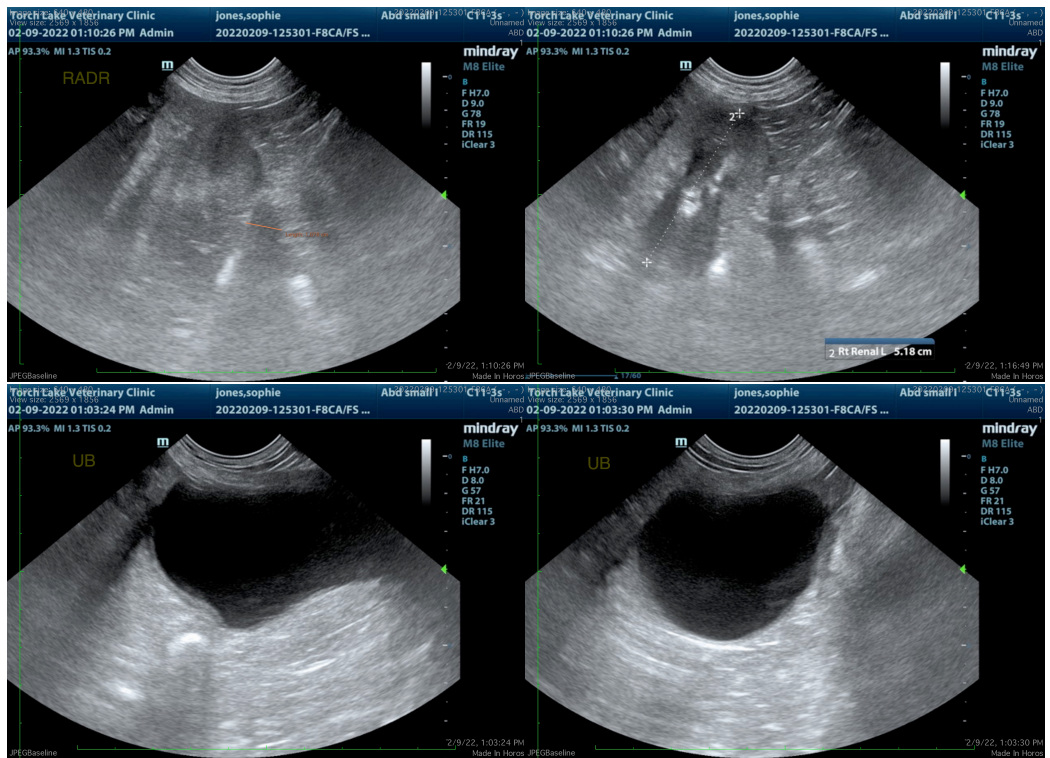
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Beth Johnson, DVM, DACVIM**  
Beth.Johnson@sonopath.com