



**PATIENT**

Gimli Goldstein

**SPECIES**

Canine

**BREED**

Goldendoodle

**SEX**

Neutered Male

**AGE**

7 Years 11 Months

**WEIGHT**

19.5 Pounds

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Graham Sager-Gellerman

**HOSPITAL NAME**

Back Bay VH

**REFERRING VET**

Graham Sager-Gellerman

**INVOICE**

20656

**DATE**

1/20/23

**PRESENTING CLINICAL SIGNS**

History: Rechecking splenic nodule first identified 4/2021 (2.35 x 1.4 cm). Recently had gastrointestinal upset (treated w/ metronidazole 1/11-1/16/2023 by rDVM). Had dental procedure 1/6/23 (no extractions) under general anesthesia.

Abnormal PE/Chem/CBC/UA Results: 11/11/22: CBC: wnl CHEM: wnl 4dx: neg x 4

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Urinary bladder is adequately distended with anechoic contents. A moderate to large amount of mineral debris is noted along the dependent wall, some of it shadows, consistent with small or clumped cystoliths. The possibility of larger 0.5 cm to even 1.0 cm size cystoliths vs clumped cystoliths is possible and is difficult to differentiate. No masses or inflammatory changes are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

The area of the prostate is examined without evident prostatic pathology.

Left kidney is normal is size (4.85 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.

Right kidney is normal is size (5.27 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**

Adrenal glands are small (flattened contour). Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The left adrenal gland measures 1.86 cm long x 0.31 cm at cranial pole and 0.28 cm at caudal pole. The right adrenal gland measures 1.51 cm long x 0.25 cm at cranial pole and 0.26 cm at caudal pole.

**Spleen**

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). An anechoic non-capsule-disrupting nodule is noted in the mid body of the spleen, measuring 2.2 cm x 1.1 cm in one view and 1.7 cm x 1.6 cm in a different view. Splenic vasculature appears normal.

**Liver**

Liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

Gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

**Gastrointestinal**



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The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta.

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The visible small intestines are normal in wall thickness and layering. Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease.

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The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

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**Pancreas**

The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

**Free Abdomen**

**AGE**

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There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

19.5 Pounds

**Primary Findings**

- Flat adrenal glands – This can be a normal patient variant and/or a sign of exogenous cortisol administration. If exogenous steroids are not being administered, hypoadrenocorticism (either relative or absolute) should be considered.

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- Hypo to anechoic splenic nodule – likely represents a benign lesion such as a cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out. The appearance of the nodule is very similar to that reported two years ago.

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**Secondary Findings**

- Urinary bladder mineral debris and cystolithiasis

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The appearance of the splenic nodule is static, which trends further towards a benign lesion, continued monitoring is recommended.

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Given this patient's recent episode of gastrointestinal upset, combined with signalment and the appearance of the adrenal glands, a baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.

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If not recently evaluated, urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ratio is recommended.

If a urinary tract infection is diagnosed and/or the mineral is believed to be struvite and dissolvable, a dissolution protocol is recommended. Otherwise, a cystotomy may ultimately be necessary for stone removal and identification.

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Prior to a cystotomy, given the lack of ability to definitively identify single large stones, voiding



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urohydropropulsions/bladder flush could be attempted to remove as much small mineral debris as possible for identification. Following that procedure, recheck imaging could be evaluated to see if follow up surgery for any larger mineral still present was required.

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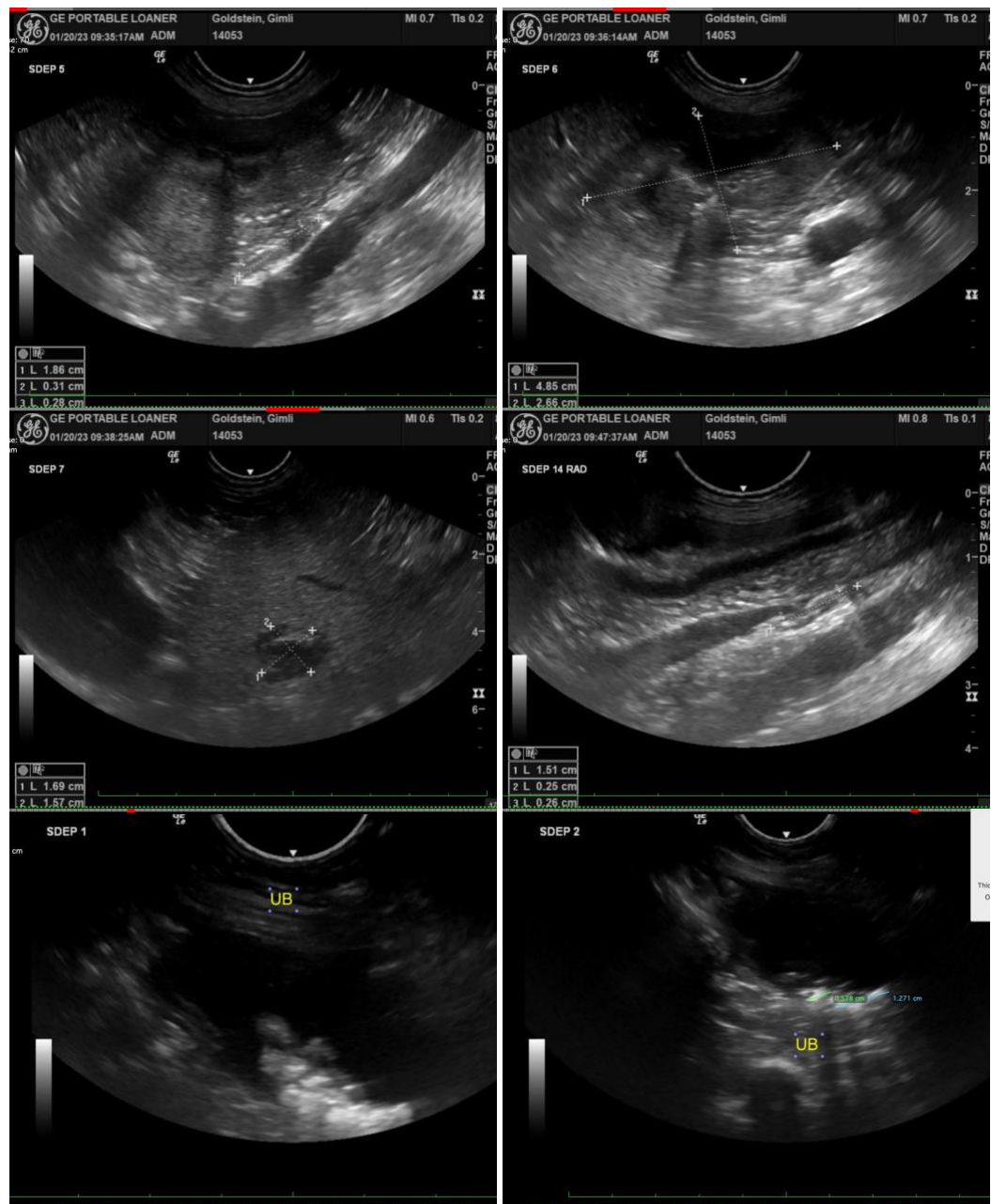
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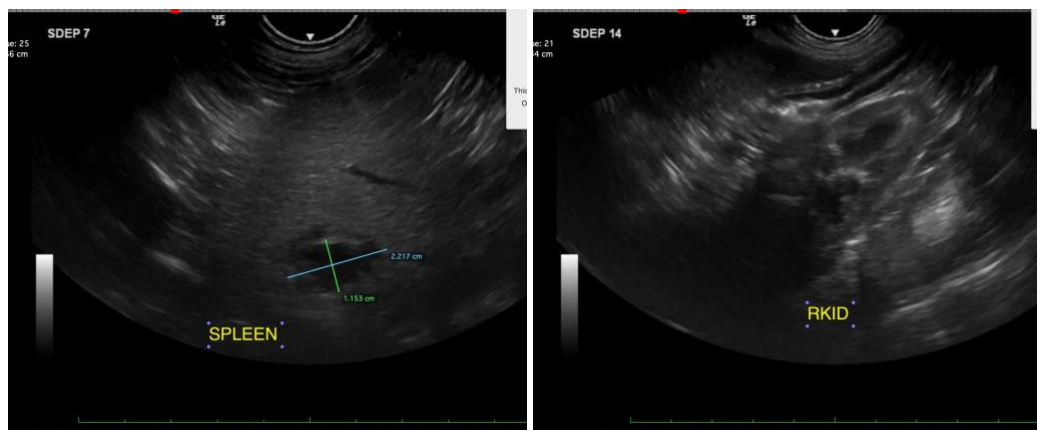
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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**

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