



**PATIENT**

Baby Altomari

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Spayed Female

**AGE**

9 Years

**WEIGHT**

14.4

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**IMAGING PERFORMED BY**

Devon Papa, CVT

**HOSPITAL NAME**

Valley Veterinary  
Services, Inc.

**REFERRING VET**

Dr. Michelle Bartus

**INVOICE**

22899

**DATE**

6/12/23

**PRESENTING CLINICAL SIGNS**

History: Diagnosed with Diabetes Mellitus a year ago. Clinically seems to be doing well, but recent lab work was abnormal.

Abnormal PE/Chem/CBC/UA Results: ALT 209 (10-125), ALKP 678 (23-212), Glob 4.8 (2.5-4.5)

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

Urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Apical urinary bladder wall is diffusely thick (X cm). Mucosa is hyperechoic and irregular. Some of the visible contents are mineral/sand in consistency, both suspended and dependent. No masses are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

Left kidney is normal in size (4.06 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. hyperechoic band parallel to the corticomedullary border is present.

Right kidney is normal in size (3.62 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. hyperechoic band parallel to the corticomedullary border is present.

**Adrenal Glands**

Left adrenal gland is normal in size (0.38 cm at cranial pole and 0.51 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (0.57 cm at caudal pole, the cranial pole is difficult to fully visualize in these images), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**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). No focal nodules or masses are observed. Splenic vasculature appears normal.

**Liver**

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. 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**

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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There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

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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**

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

**ULTRASONOGRAPHIC FINDINGS**

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- Heterogenous Liver - These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.
- Medullary rim sign bilaterally - This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.
- Chronic Cystitis - Urinary bladder wall changes are most consistent with chronic cystitis. Infiltrative neoplasia cannot be ruled out but is considered less likely give the location and diffuse nature of the changes.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

In a clinically well patient, the liver enzyme abnormalities reported, as well as the heterogenous liver, are both likely secondary to the patients known diabetes. Having said that, a fine needle aspirate could be considered if patients coagulation status is appropriate.

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



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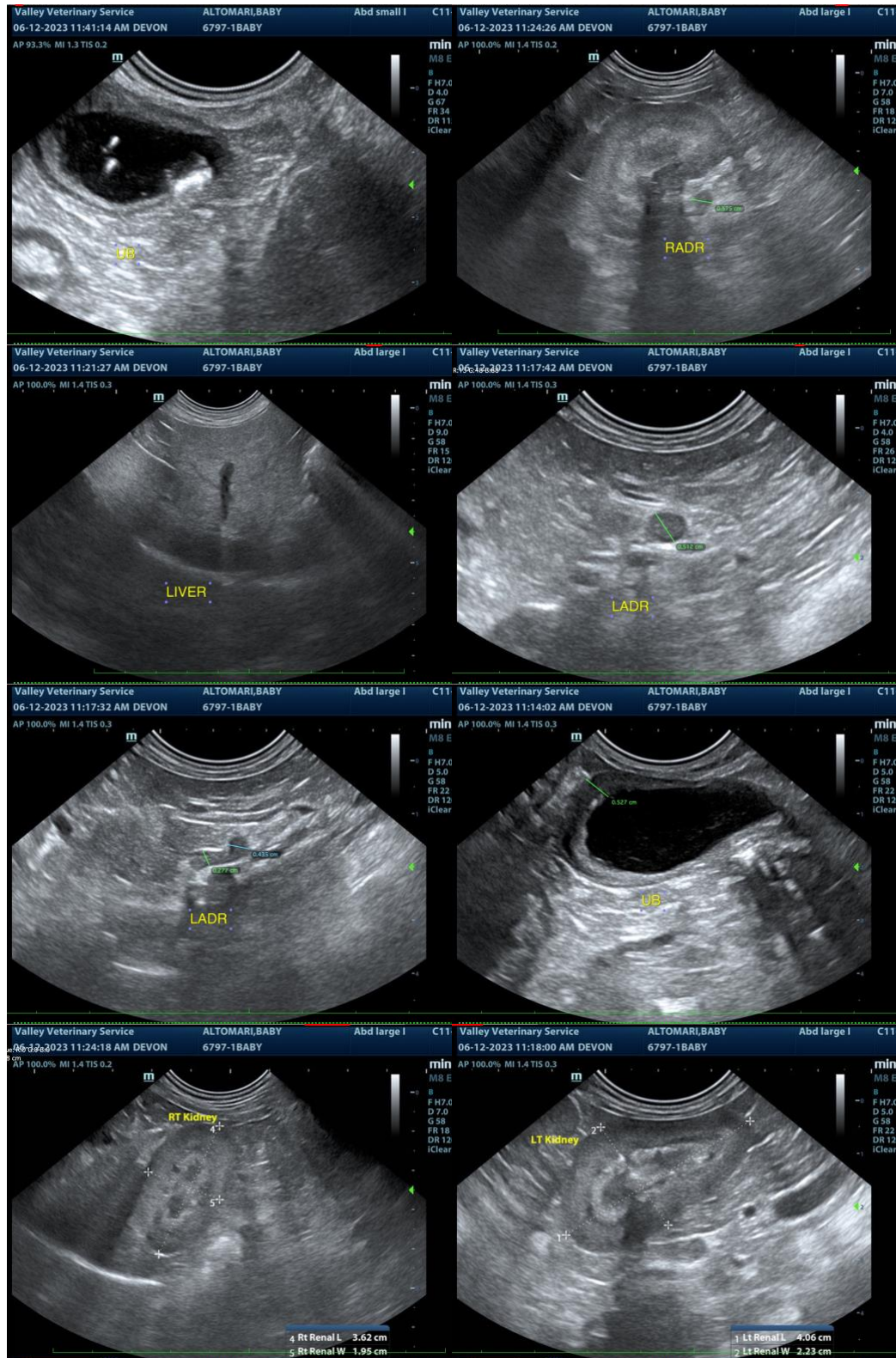
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not



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visible in the image/video clips provided.

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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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info@sonopath.com

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