

**PATIENT PRESENTING CLINICAL SIGNS**

Gigi Garofolo  
 Pain on palpation query abdominal/back. Pre-dental. ALT 121, ALP 914, T4 0.7. Radiographs: hepatomegaly, left renomegaly. On Denamarin advanced small, 1/4 tab SID.

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Canine  
**Urinary System**

**BREED**  
 Pomeranian  
 The urinary bladder, trigone, cystourethral junction, and proximal pelvic urethra exhibited normal thickness and tone. Anechoic urine was present in the lumen. Focal minor proximal urethral luminal mineral noted. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

**SEX**  
 The area of the aortic trifurcation was free of pathology.

Spayed Female  
**AGE**  
 11 Years  
 Normal renal size with asymmetrical margination was present in both kidneys. The renal cortex presented uniformly increased in echogenicity with uniform echotexture. The renal cortex appeared to be hypertrophied resulting in an altered cortex: medulla ratio. Mild loss of corticomedullary distinction was also present. The renal medullary volume was subjectively reduced. Cortical cysts were present in both kidneys with minor renolithiasis and minor pyelectasia. A moderately sized, thinly walled left kidney cyst containing anechoic fluid measured 3.5 cm in diameter. The overall left kidney measured 4.5 cm. The right kidney measured 4.4 cm.

**WEIGHT**  
 13 Pounds  
**Adrenal Glands**

The adrenal glands were uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.37 cm at the cranial pole and 0.38 cm at the caudal pole. The right adrenal gland measured 0.43 cm at the cranial pole and 0.49 cm at the caudal pole.

**INTERPRETED BY**

R. McKenzie Daniel, DVM,  
 DABVP (Canine and Feline)

**Spleen**

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. The capsule was smooth and regular without apparent expansion. A solitary, benign, uniform hyperechoic nodule was noted exhibiting subtle progressive distal acoustic shadowing in the mid spleen, measuring 0.40 cm diameter. This nodule is consistent with a benign myelolipoma or possible mineralization. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age related remodeling with minor potential for inflammatory or neoplastic disease.

**IMAGING PERFORMED BY**

Pamela Harrigan, RDMS

**HOSPITAL NAME**

Pine Banks AH

**REFERRING VET**

Dr. Abrar Syed

**Liver**

The liver presented generalized enlargement with symmetrically mildly rounded hepatic capsule contour. Generalized non-homogeneous hepatic parenchyma, exhibiting parenchymal remodeling and moderate coarse echotexture. Intermittent discrete areas of probable lipogranulomas or nodular hyperplasia noted. Normal vascular volume. No masses. The gallbladder was non-distended in size with moderate non-dependent variably inspissated to hyperechoic gallbladder debris. No evidence of gallbladder or peripheral gallbladder inflammation.

**INVOICE**

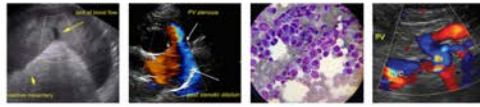
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**DATE**

5/7/23

**Gastrointestinal**

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction or foreign material.



**PATIENT**

Gigi Garofolo

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

**SPECIES**

Canine

***Pancreas***

The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

**BREED**

Pomeranian

***Free Abdomen***

No overt lymphadenopathy or peritoneal effusion was present.

**SEX**

Spayed Female

**ULTRASONOGRAPHIC FINDINGS**

**AGE**

11 Years

**WEIGHT**

13 Pounds

- Focal minor proximal urethral luminal mineral
- Moderate chronic renal changes with cortical cysts and minor renolithiasis, moderately sized caudal left kidney cyst
- Enlarged, non-homogeneous, subtly nodular liver – non-specific yet subjectively benign vacuolar hepatopathy, potential concurrent low-grade inflammatory hepatopathy, hyperplasia, hematopoiesis. Probable discreet lipogranulomas. Hepatic neoplastic criteria considered unlikely.
- Immature gallbladder mucocele
- Benign splenic nodule
- Minor pancreatic remodeling

**INTERPRETED BY**

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DABVP (Canine and Feline)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**IMAGING PERFORMED BY**

Pamela Harrigan, RDCS

This patient may be passing small amounts of mineral from the kidneys into the bladder and proximal urethra. Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered. No evidence of post-urinary obstruction.

**HOSPITAL NAME**

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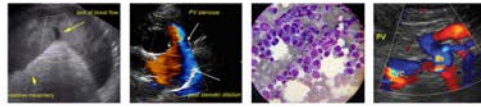
Assuming normal clotting status, screening hepatic FNA cytology could be considered for further clarification. No overt anesthetic contraindications assuming evidence of normal hepatic function (i.e., normal BUN, glucose, albumin, and cholesterol levels). The addition of Ursodiol to current Denamarin (if tolerated) is suggested, given gallbladder appearance. Sonographic monitoring of the gallbladder is recommended if evidence of progressive cholestasis or cranial abdominal/subxiphoid discomfort on palpation.

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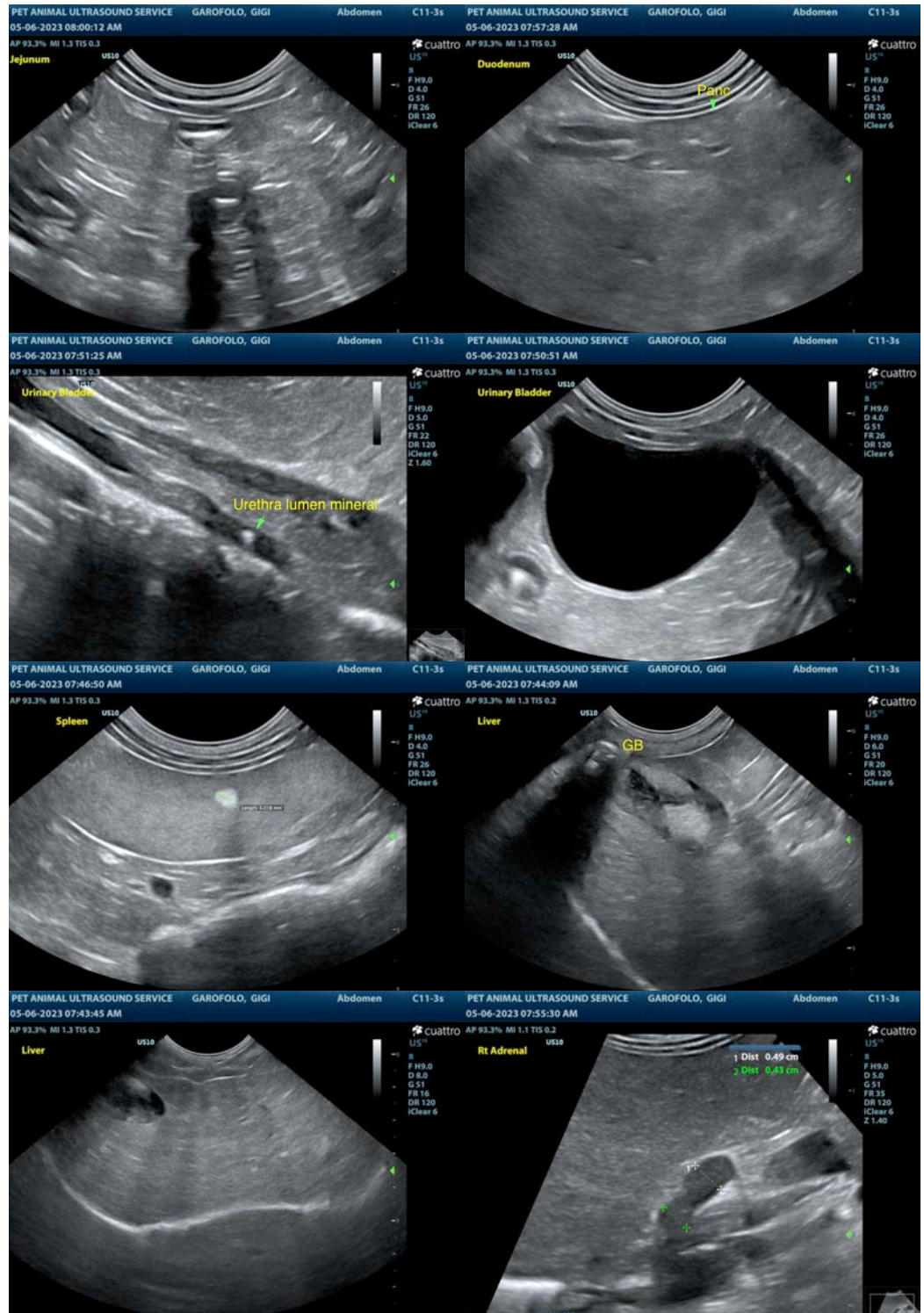
Dr. Abrar Syed

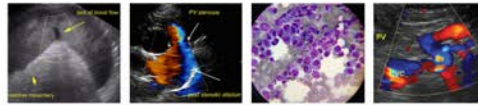
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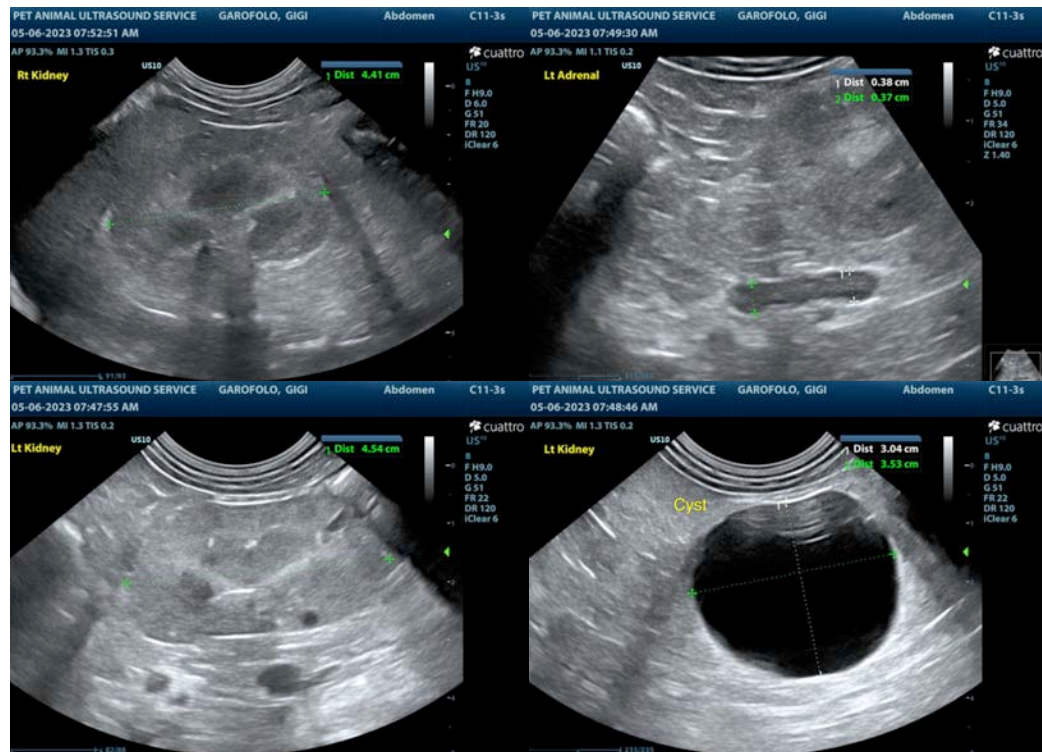
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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 info@SonoPath.com