



**PATIENT**

Annie Park

**PRESENTING CLINICAL SIGNS**

History: 1) Grape ingestion on 10/12 with at home induction of vomiting - 2) Hx pancreatitis. 3) Hx USMI, not under treatment. 4) Mild liver enzyme elevation - r/o: benign vs malignant.

**SPECIES**

Canine

Labs: ALP 298, ALT 175

Abnormal PE/Chem/CBC/UA Results: LABS attached Owner requested an ultrasound geriatric screening

**BREED**

Terrier Mix

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**SEX**

Spayed Female

The urinary bladder, trigone, cystourethral junction exhibited normal thickness and tone. The proximal urethra was normal in structure and tone to a depth of 2.0 cm with mild non-obstructive urethral luminal mineral. Mild asymmetrical luminal surface to micropolypoid changes were present likely associated with age related mural changes. Focal areas of dependent mineral to small calculi were present. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted. Aortic trifurcation was normal.

**AGE**

12 Years

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The right kidney measured 5.3 cm in length. The left kidney measured 4.9 cm.

**WEIGHT**

21 Lbs.

**INTERPRETED BY**

**Adrenal Glands**

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

The bilateral adrenal glands were normal in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present. The left adrenal gland measured 2.2 cm length x 0.66 caudal pole width. An indistinct, non-expansive nodule without mineralization was present in the caudal pole of the left adrenal gland measuring 0.57 cm diameter. The right adrenal gland overall measured 1.9 cm in length x 0.43 cm width at the caudal pole. A well-defined, hyperechoic nodule was present in the mid right adrenal gland with mild associated symmetrical capsule expansion. The nodule did not exhibit signs of mineralization or vascular invasion. The nodule measured 0.87 cm in diameter.

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques, RVT  
LVT

**Spleen**

**HOSPITAL NAME**

Donner Truckee VH

The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Areas of discreet hyperechoic medial parenchyma echogenicity adjacent to the hilus, likely consistent with benign myelolipomas. The capsule was smooth and regular without apparent expansion. 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.

**REFERRING VET**

Dr. India

**INVOICE**

12852

**Liver**

**DATE**

12/6/21

The liver presented enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The



## PATIENT

Annie Park hepatic and portal vasculature were normal in appearance without signs of congestion. Intermittent well demarcated uniformly echogenic intraparenchymal nodules were present, an example of a nodule measured 1.2 cm in diameter.

## SPECIES

Canine The gallbladder was non distended in size with mild non-dependent gallbladder debris. The cystic duct and common bile ducts were normal without evidence of dilation.

## BREED

Terrier Mix The visible gastric walls exhibited intact wall layering without mural pathology or hypertrophy. The stomach contained shadowing ingesta without overt evidence of obstruction to pyloric outflow. The gastric body wall measured 0.35 cm.

## SEX

Spayed Female 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. Mild non-specific duodenojejunal mucosal speckling was noted. Duodenum wall measured 0.37 cm.

## AGE

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

## WEIGHT

21 Lbs. The pancreas base and right pancreatic limb were mildly prominent in size with mild hypoechoic to non-homogeneous parenchyma compared to adjacent omentum.

## INTERPRETED BY

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Feline)

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LVT

## HOSPITAL NAME

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## DATE

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## Gastrointestinal

The visible gastric walls exhibited intact wall layering without mural pathology or hypertrophy. The stomach contained shadowing ingesta without overt evidence of obstruction to pyloric outflow. The gastric body wall measured 0.35 cm.

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

## Pancreas

The pancreas base and right pancreatic limb were mildly prominent in size with mild hypoechoic to non-homogeneous parenchyma compared to adjacent omentum.

## Free Abdomen

No overt peritoneal effusion was present.

## ULTRASONOGRAPHIC FINDINGS

### Primary Findings

- Mild non-obstructive dependent urinary bladder and proximal urethral luminal mineral
- Hepatomegaly with intermittent echogenic intraparenchymal nodules- subjectively benign
- Mild gallbladder debris (non-mucocele)
- Chronic active pancreatitis
- Bilateral adrenal nodules - suspect adenomas
- Mild age-related kidneys

### Secondary Findings

- Age-related spleen
- Non-specific mild duodenojejunal mucosal speckling- non-specific

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The overall appearance of the liver, although non-specific, is consistent with benign hepatomegaly/hepatopathy, vacuolar hepatopathy, low-grade inflammatory hepatopathy, with mild non-clinical cholestasis given the concurrent presence of gallbladder debris possible. The echogenic hepatic nodules are most suggestive of areas of nodular to regenerative hyperplasia or small lipogranulomas and with low grade neoplastic nodules considered a less likely differential diagnosis. Assuming normal clotting status, ultrasound guided FNA of the liver could be considered for



**PATIENT**

Annie Park screening cytology and further clarification. Hepatosupportive medications, including ursodiol, may prove beneficial. Urine culture and sensitivity, on sterile sample, recommended.

**SPECIES**

Canine

Although bilateral adrenal adenomas are suspected, potential for emerging neoplasia (such as pheochromocytoma or adenocarcinoma) cannot be definitively excluded. Ideally, sonographic monitoring of the adrenal nodules, for evidence of progression, as well as periodic blood pressure assessment, would be appropriate.

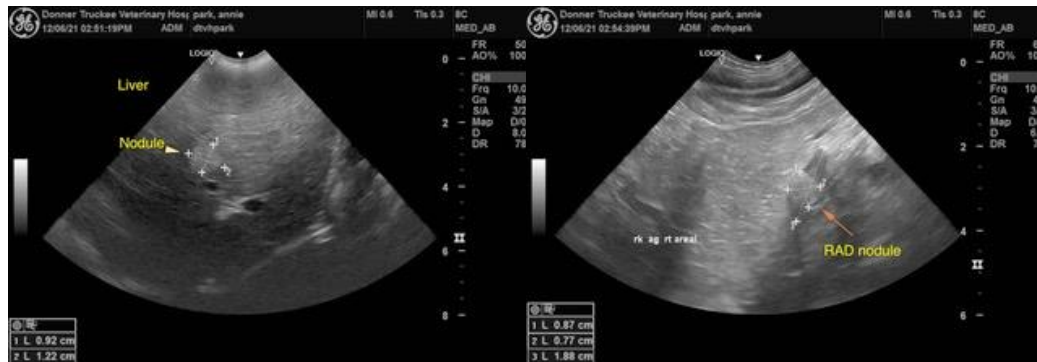
**BREED**

Terrier Mix

Potential for enteritis or low-grade inflammatory enteropathy possible, if previous or current history of gastrointestinal signs.

**SEX**

Spayed Female



**AGE**

12 Years

**WEIGHT**

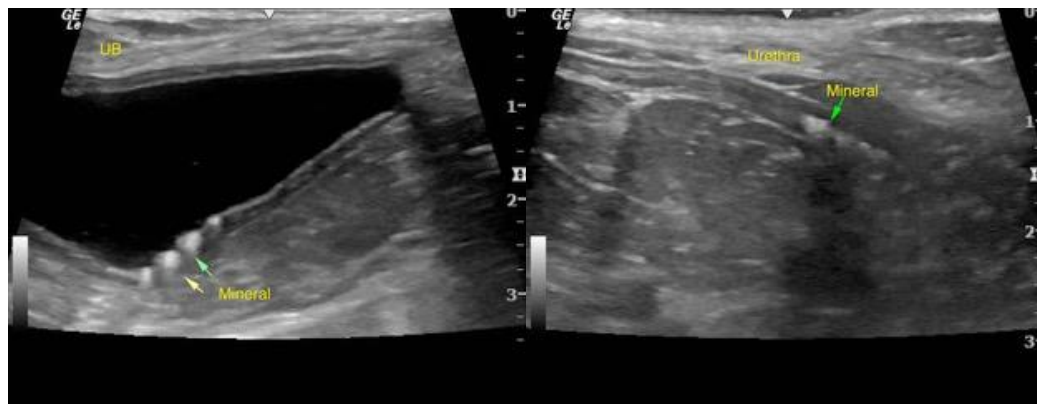
21 Lbs.

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Feline)

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**HOSPITAL NAME**

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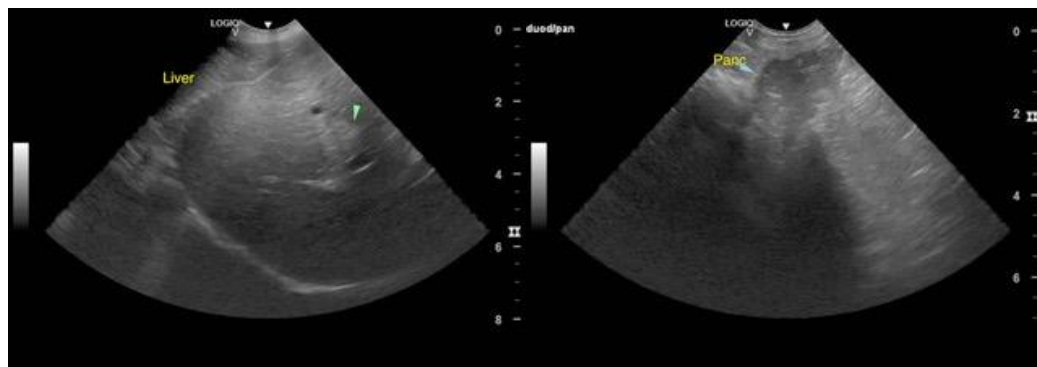
Dr. India

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**DATE**

12/6/21





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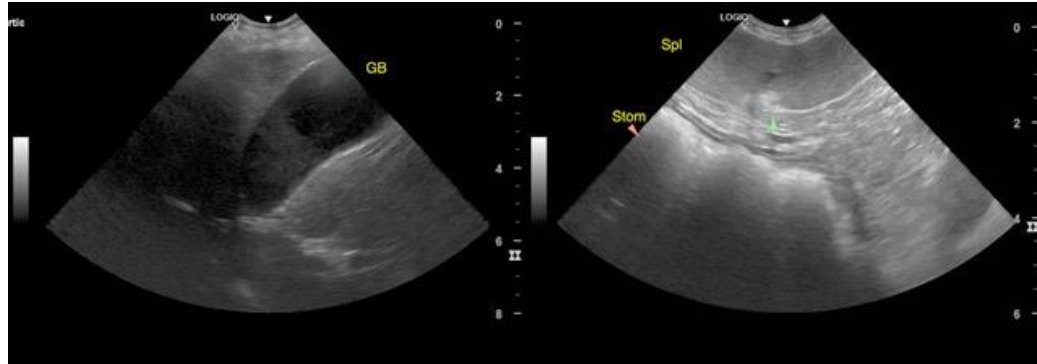
Annie Park

**SPECIES**

Canine

**BREED**

Terrier Mix



**SEX**

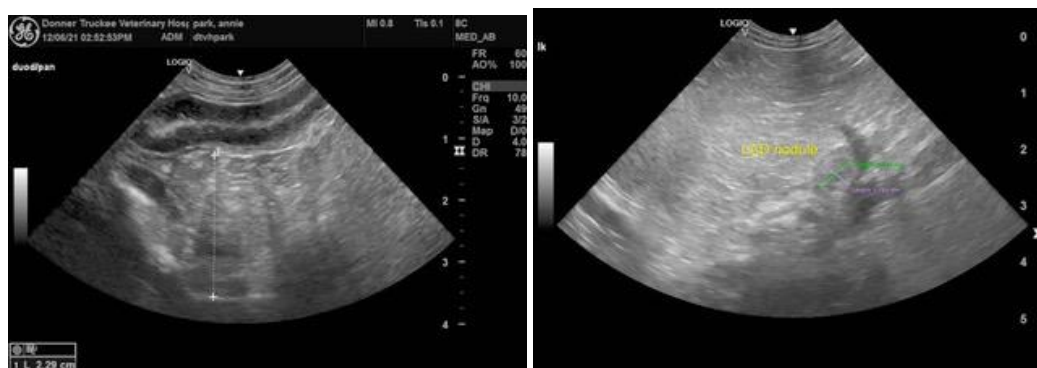
Spayed Female

**AGE**

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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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