



## PATIENT

Snickers Simmons

## PRESENTING CLINICAL SIGNS

## SPECIES

Canine

## BREED

Schnauzer

Chief Concern/Provisional Dx: Diabetes Mellitus, Hypertension, Proteinuria, possible Hyperadrenocorticism History: Snickers is a diabetic. She has had a dramatic increase in her GGT and liver enzymes. Although she is on a low fat she occasionally has hyperlipidemia. Her most recent glucose curve demonstrated that her diabetes has become unregulated. She is hypertensive and proteinuric. Physical : Unremarkable exam findings. Clinically Snickers acts very healthy. Eating Senior Screen : Hgb 13.1 (13.4-20.7 g/dl). ALT 464 U/L, AST 70 U/L, ALP 1,490, GGT: 18 U/L, Triglycerides: 594 mg/dl. Spec Cpl: normal 133 ug/dl, TT4: 0.8 ug/dl, 4Dx: negative. UA: Glucose 3+, Urine protein 2+ Concerns for possible Hyperadrenocorticism.

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

## SEX

Spayed Female

### Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Primarily anechoic urine was present in the lumen with small dependent calculi in the trigone (estimate 2). Example measured 0.42 cm in diameter. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

## AGE

11 Years 4 Months

Normal size and margination was 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. Mild areas of medullary mineral noted in both kidneys. Mild pyelectasia noted in the left kidney. The left kidney measured 6.1 cm. The right kidney measured 6.7 cm.

## WEIGHT

26 Pounds

### Adrenal Glands

## INTERPRETED BY

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 without suspicion for overt neoplasia. The left adrenal gland measured 0.62 cm at the cranial pole and 0.59 cm at the caudal pole. The right adrenal gland measured 0.89 cm at the cranial pole and 0.69 cm at the caudal pole.

### Spleen

**IMAGING BY**  
Loetitia Saint-Jacques,  
LVT

The spleen was normal in size and contour. Mild splenic parenchyma heterogeneity with multifocal pinpoint hyperechoic parenchymal foci. These foci, although non-specific, may indicate pinpoint areas of splenic microinfarction, fibrosis, or mineralization, and are considered incidental.

## HOSPITAL NAME

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### Liver

## REFERRING VET

Dr. Grace Berg

The liver exhibited generalized enlargement. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. A non-homogeneous intraparenchymal mass was noted in the subjective mid to left liver, measuring approximately 9.0 cm in diameter. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. Moderate congealed pinpoint mineralized sludge present, primarily in the caudal lumen and gallbladder neck. No evidence of overt neoplastic criteria. The cystic and common bile ducts were normal.

## INVOICE

37830

## DATE

5/20/22



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### *Gastrointestinal*

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained variably echogenic non-shadowing ingesta/chyme, most consistent with post prandial presentation without signs of ileus, obstruction or foreign material.

## BREED

Schnauzer

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The small intestine exhibited generalized non-specific mild increased mucosal echogenicity. The lumen of the small intestine contained echogenic, nonshadowing ingesta consistent with normal food without signs of ileus, obstruction or foreign material.

## SEX

Spayed Female

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

## AGE

11 Years 4 Months

### *Pancreas*

The parenchyma of the pancreas was hyperechoic to adjacent omental fat with diffuse parenchyma remodeling. The capsule of the pancreas was mildly asymmetrical in contour without evidence of peripancreatic inflammation. Mild pancreatic duct dilation. These changes may suggest chronic inflammation, fibrosis, or saponification if previous history of pancreatitis. No overt signs of pancreatic neoplasia.

### *Free Abdomen*

No evidence of significant lymphadenopathy. Mild volume to scant peritoneal free fluid noted, primarily in the cranial abdomen and around the liver.

## WEIGHT

26 Pounds

## ULTRASONOGRAPHIC FINDINGS

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- Small urinary bladder calculi.
- Chronic renal changes with minor medullary mineral and minor left kidney pyelectasia.
- Hepatomegaly with non-homogeneous intraparenchymal mass – non-specific, metabolic/reactive/vacuolar hepatopathy (diabetic hepatopathy), inflammatory disease, marked nodular hyperplasia, hematopoiesis, fibrosis, or other hepatopathy with concern for neoplastic mass possible.
- Moderate congealed to pinpoint mineralized gallbladder sludge (non-mucocele).
- Chronic pancreatitis with potential pancreatic fibrosis.
- Overtly normal bilateral adrenal gland – no evidence of hyperplasia or tumors.
- Gastric and segmental small intestinal ingesta, subjective non-specific increased small bowel mucosa echogenicity.
- Scant to mild volume peritoneal free fluid – primary perihepatic.



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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This patient may be passing small amounts of mineral from the kidneys to the urinary bladder. The left kidney pyelectasia may be owing to chronic renal changes, potential pelvic scarring possibly owing to previous calculi passage, IV fluid therapy (if applicable). Urine C/S and protein:creatinine ratio on sterile urine sample is recommended.

Further assessment of the liver may include ultrasound guided FNA, specifically of the hepatic mass for cytology. Given that the mass is suspected to involve more than one liver lobe, complete resection of the hepatic mass is likely precluded.

The subjectively normal bilateral adrenal glands does not overtly excluded hyperadrenocorticism. Screening UCCR +/- LDDST could be considered, if clinically indicated.

### Potential Causes of Diabetic Dysregulation

This is a suggestive checkoff list when faced with an unregulated diabetic patient:

UTI

Dietary indiscretion/intolerance

Pancreatitis

Hyperthyroidism/hypothyroidism

Exogenous steroids (including topical eye meds)

Cushing's

Acromegaly

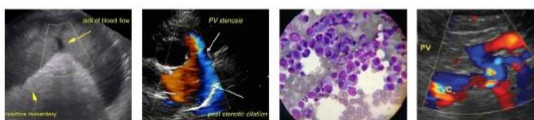
Owner compliance

Insulin quality issues

Antibodies to insulin

Underlying Neoplasia





Portable Animal Wellness Sonography, Inc.

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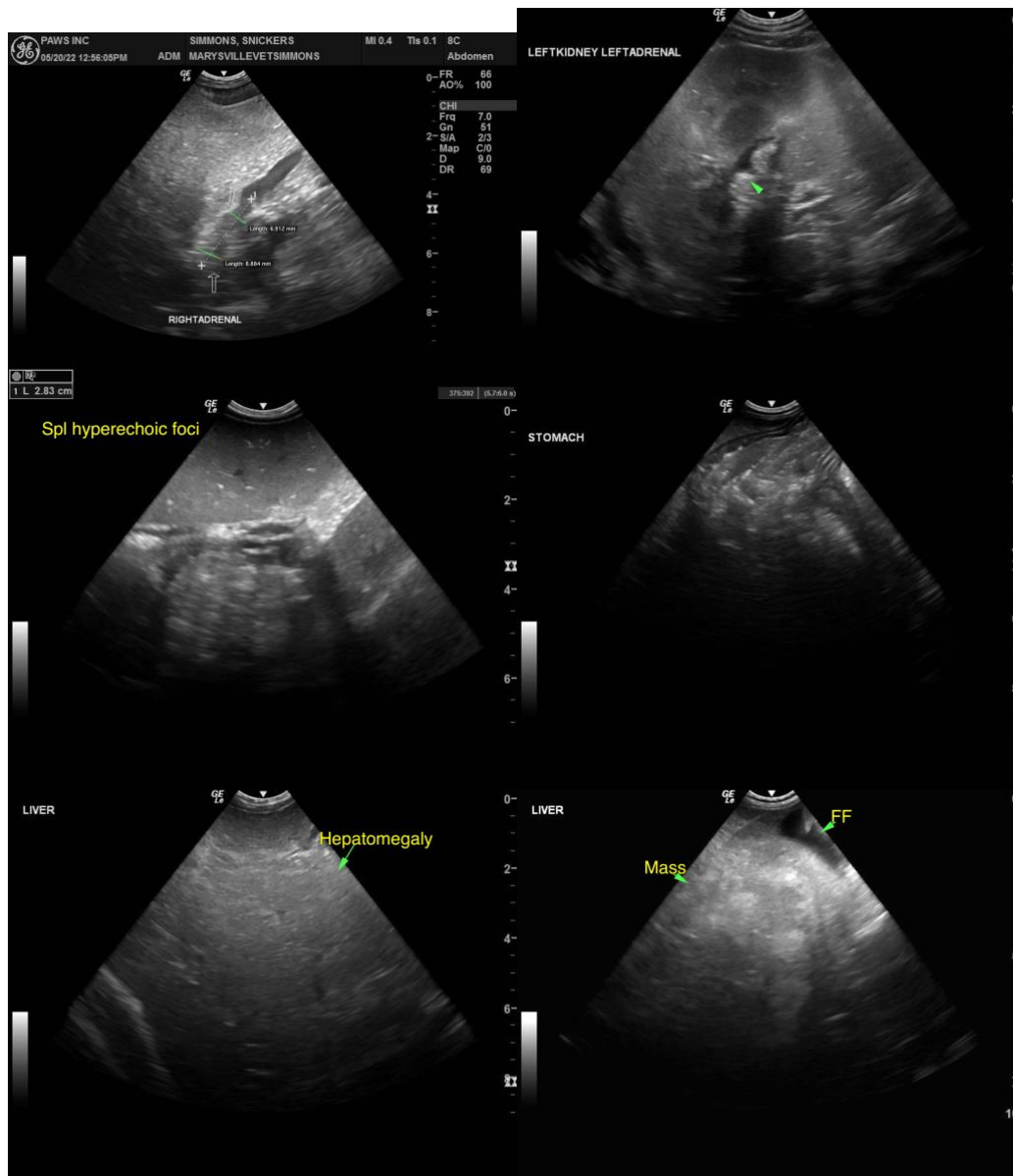
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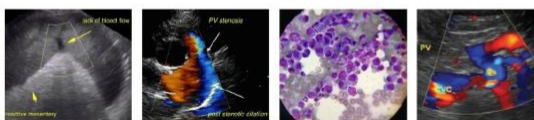
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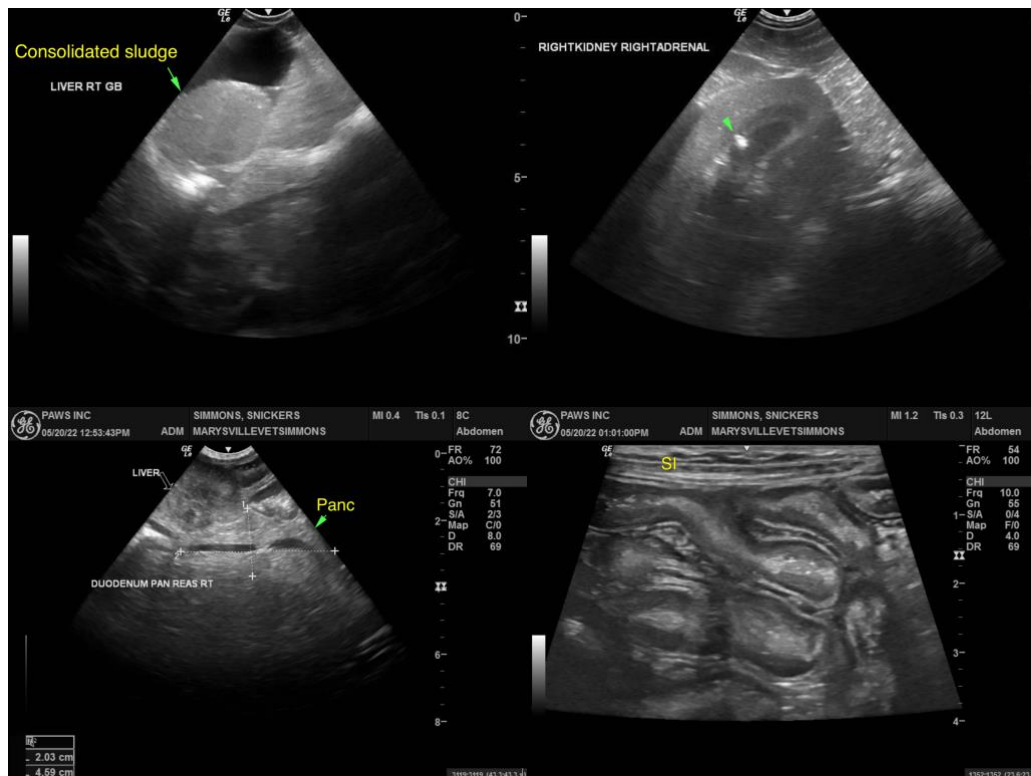
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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