



**PATIENT**  
Chrissy Midwest  
Dachshund Rescue

**SPECIES**  
Canine

**BREED**  
Dachshund

**SEX**  
FS

**AGE**  
11 years old

**WEIGHT**  
11 lbs.

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

**IMAGING PERFORMED BY**

Kim Liedberg

**HOSPITAL NAME**  
SVS Imaging WI

**REFERRING VET**  
Dr. Keri

**INVOICE**  
13643

**DATE**  
4/7/22

**PRESENTING CLINICAL SIGNS**

Chrissy was relinquished to a shelter after the passing of her owner. Hx of urinary issues an PU/PD. LDDS test positive for cushings. Abnormal PE/Chem/CBC/UA Results: Baseline 4.5 4hour post 4.1 8 hour post 3.4 ALT 239 ALP 1,574 GGT 35

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder presented moderate to variable uniformly thickened urinary bladder wall isoechoic to the adjacent normal urinary bladder wall, most prominent in the ventral to ventroapical wall with focal dorsoapical polyploid component. The luminal margin of the thickened urinary bladder wall was mildly asymmetrical in contour. Pinpoint areas of suspected adhered luminal mineral with potential for mural mineralization, are possible. The ventral urinary bladder wall thickness measured 0.53 cm. The dorsoapical polyploid component measured approximately 0.74 cm in diameter. The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra exhibited normal tone to a depth of 3.0 cm. Anechoic urine was present in the lumen with no overt evidence of macrocalculi. The ureteral papillae were normal. The ureters were not visible which is normal.

The area of the aortic trifurcation was free of pathology.

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 moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Multiple pinpoint hyperechoic cortical foci were present in both kidneys. The left kidney measured 5.5 cm in length. The right kidney measured 5.9 cm in length.

**Adrenal Glands**

The bilateral adrenal glands were prominent to mildly enlarged in size. Mild parenchyma heterogeneity and mild capsule asymmetry was present without suspicion for overt neoplasia. Indistinct nodular parenchymal changes were present without evidence of parenchymal mineralization. An example of a nodule in the cranial pole of the left adrenal gland measured 0.96 cm x 0.66 cm. No overt evidence of vascular invasion associated with the adrenal nodule changes. The left adrenal gland measured 1.1 cm width in the cranial pole and 0.89 cm width in the caudal pole. The right adrenal gland measured 0.99 cm width in the cranial pole and 0.70 cm width in the caudal pole.

**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. 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.



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***Liver/ Gallbladder***

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. Small focal thinly walled Intraparenchymal hepatic cyst present. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with mildly echogenic yet non-thickened gallbladder walls containing moderate gallbladder debris. No evidence of peripheral gallbladder inflammation was noted. The cystic and common bile ducts were normal.

***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.

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. Segmental to generalized duodenojejunal nonspecific mucosal speckling was present.

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

***Pancreas***

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

***Free Abdomen***

No overt lymphadenopathy or peritoneal effusion was present.

**ULTRASONOGRAPHIC FINDINGS**

- Chronic cystitis / polyploid cystitis urinary bladder pattern with pinpoint luminal mineral, neoplastic criteria possible
- Moderate chronic renal changes with probable multiple pinpoint cortical infarctions vs. fibrosis
- Bilateral mild adrenomegaly with nonspecific nodular changes - functional / nonfunctional adenoma, hyperplasia given LDDST with potential for neoplasia i.e., pheochromocytoma, adenocarcinoma, or other possible
- Steroid / vacuolar hepatopathy pattern with focal benign intraparenchymal cyst
- Moderate gallbladder debris, potential early noninflamed mucocele
- Pancreatic parenchymal remodeling - age-related pancreatic changes likely, potential for low-grade chronic to mixed pattern pancreatitis

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Screening BRAF Assay could be considered. However, if screening BRAF Assay is negative, neoplastic urinary bladder criteria such as transitional cell carcinoma cannot be definitively excluded. Cytospin



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cytology of free catch urine sample could be considered for cytology. Urine culture and sensitivity ideally on a sterile urine sample is suggested.

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Assessment and monitoring of systemic blood pressure for evidence of hypertension which may allude to pheochromocytoma is recommended.

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Empirical therapy for pituitary-dependent hyperadrenocorticism with sonographic monitoring of the bilateral adrenal glands for evidence of progressive nodular changes would be reasonable.

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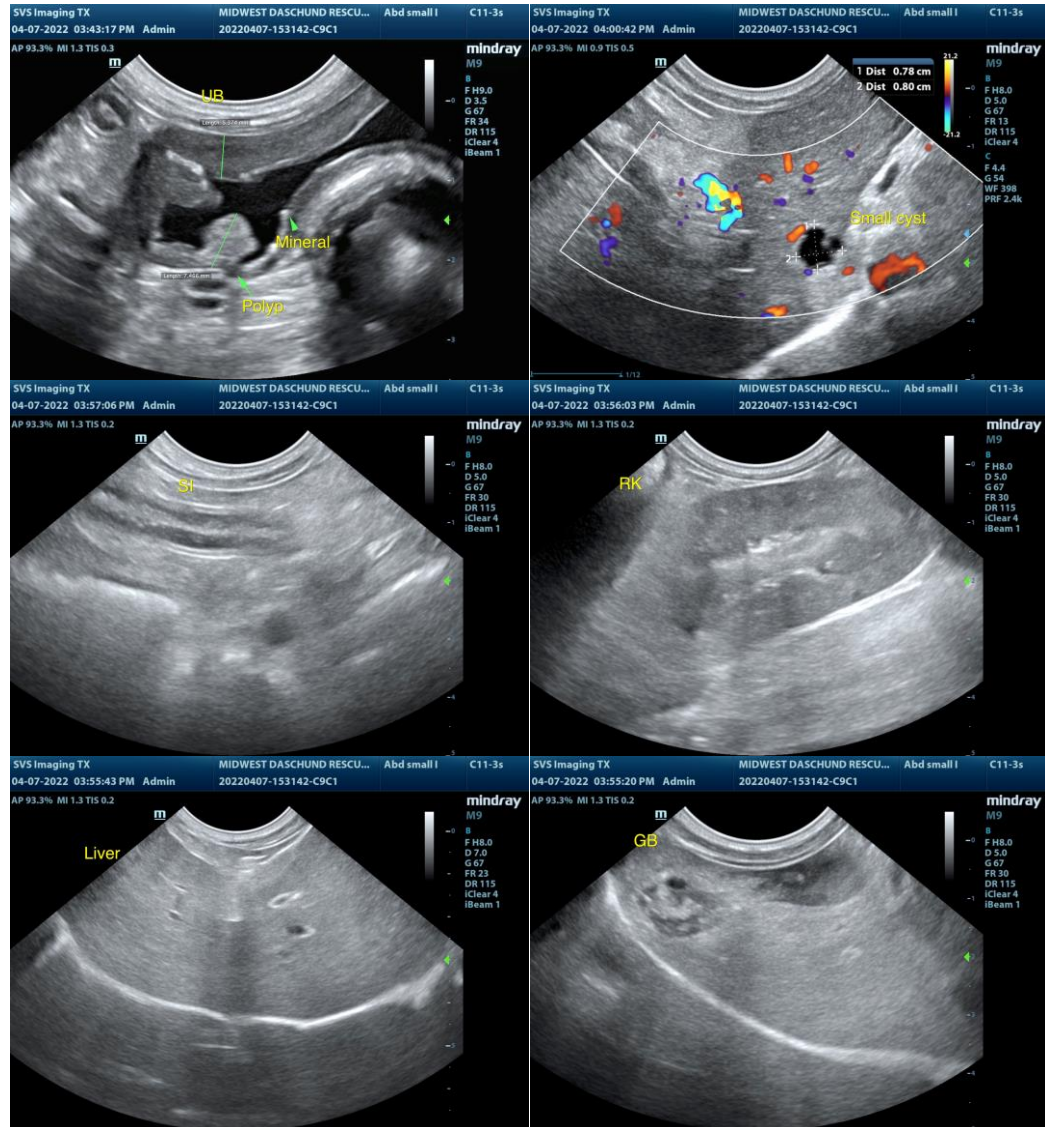
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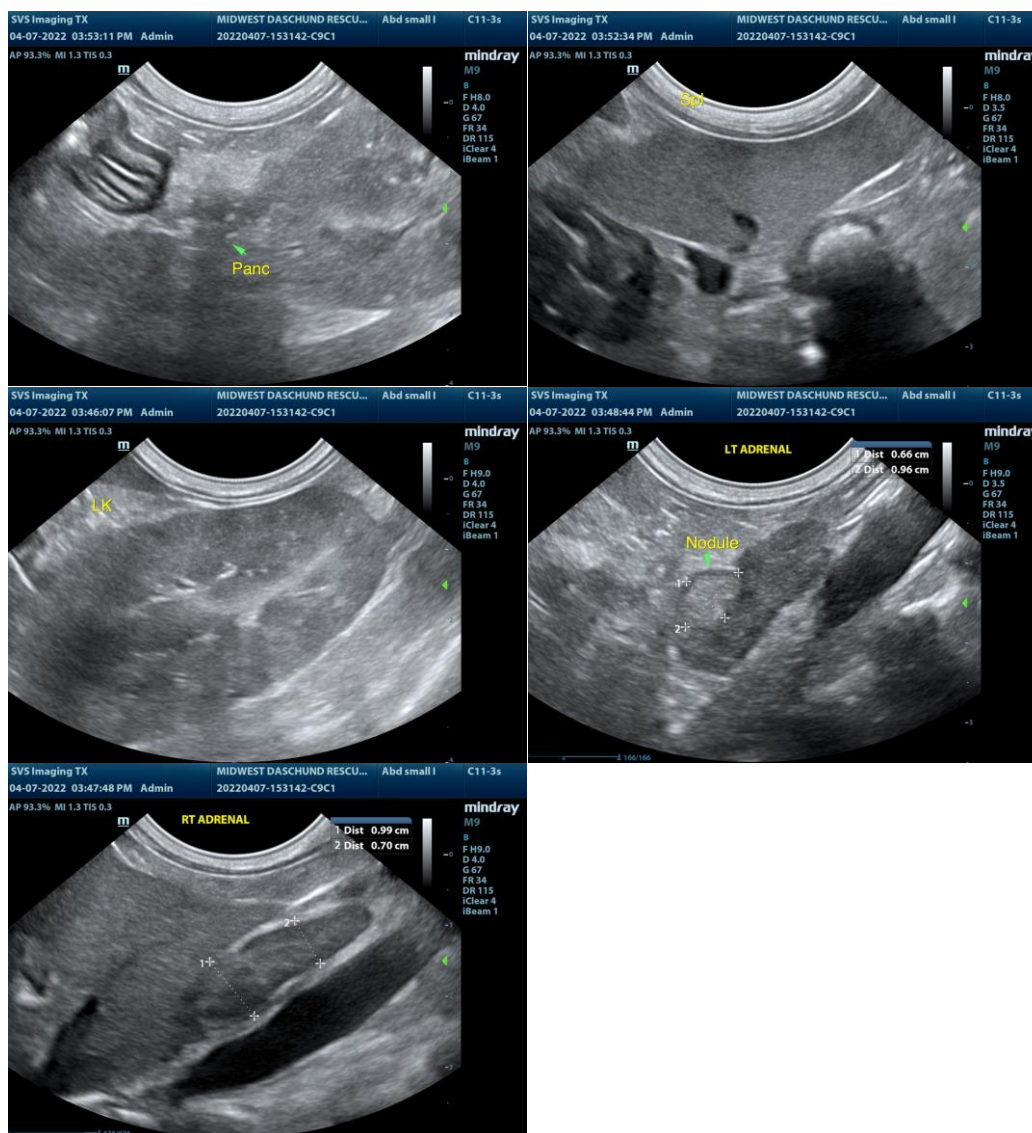
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)**  
info@SonoPath.com