



## PATIENT

Chichi Delgado

## SPECIES

Canine

## BREED

Dachshund

## SEX

Intact male

## AGE

1 year

## WEIGHT

11.4 lbs

## INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Dr. Ferrer

## HOSPITAL NAME

Pulse Pet Ultrasound  
Services

## REFERRING VET

Dr. Solis

## INVOICE

73478

## DATE

3/12/26

## PRESENTING CLINICAL SIGNS

- Px presented as a referral for an abdominal ultrasound and a shunt hunt due to elevated liver enzymes and elevated bile acids
- Px originally visited rDVM for a neuter procedure but the blood chemistry showed elevated hepatic enzyme values, so a bile acids panel was performed and the results came back elevated
- Owner reports Px to be BAR, no vomiting, and no diarrhea
- rDVM suspects PSS
- rDVM records attached below for your reference

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. Calculus was noted in the urinary bladder measuring 0.6 cm with minor acoustic shadowing. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The left kidney measured 5.8 cm. Slight anechoic cysts were noted in the right kidney. The right kidney measured 5.8 cm.

The prostate was uniform and measured 2.8 cm. The testicles were imaged and found to be uniform.

### Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 2.0 x 0.36 cm at the caudal pole and 0.37 cm at the cranial pole. The right adrenal gland measured 2.0 x 0.37 cm at the caudal pole and 0.36 cm at the cranial pole.

### Spleen

The **spleen** in this patient was mildly enlarged with uniform parenchyma and was folded upon itself caudally. This is a positional variant and is not pathological. There was no evidence of significant disease.

### Liver

The **liver** was subnormal in size with subjectively hypovascular tissue owing to poor volume. The portal vein was subnormal and measured 0.44 cm, vena cava measured 0.83 cm. A gastrocaval shunt was noted and initiated just caudal to the pylorus decouring caudal dorsally and entered into the vena cava.



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The maximum width of the shunt measures 0.6 cm. This initiates from the right gastric vein just caudal to the pylorus in a C shaped fashion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal.

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### *Gastrointestinal*

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Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

## SEX

Intact male

### *Pancreas*

## AGE

1 year

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

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### **ULTRASONOGRAPHIC FINDINGS**

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Bladder calculi.

Microhepatica.

Gastrocaval shunt.

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### INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Bile acid profile is indicated if not already performed. CT evaluation with contrast for confirmation and surgical planning. Surgical shunt attenuation, liver biopsy, cystotomy, stone analysis and culture are indicated. Medical management such as the following is recommended in the meantime until surgery can occur.

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### **Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy**

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**Royal Canin Hepatic Support diet or Hills L/D, Metronidazole** (7.5 mg/kg PO bid) over the next 14 days, **Lactulose** (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base) long term to target 2-3 soft stools/day, with a **high-quality protein supplement** of minor amount of **yogurt or cheddar cheese**. Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. SAME and nutraceuticals as needed. **Ursodiol** (10-15 mg/kg p.o. q24h) can be considered as hepatoprotectant and to enhance bile flow. **Zinc** serum level keep between 200–500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic.

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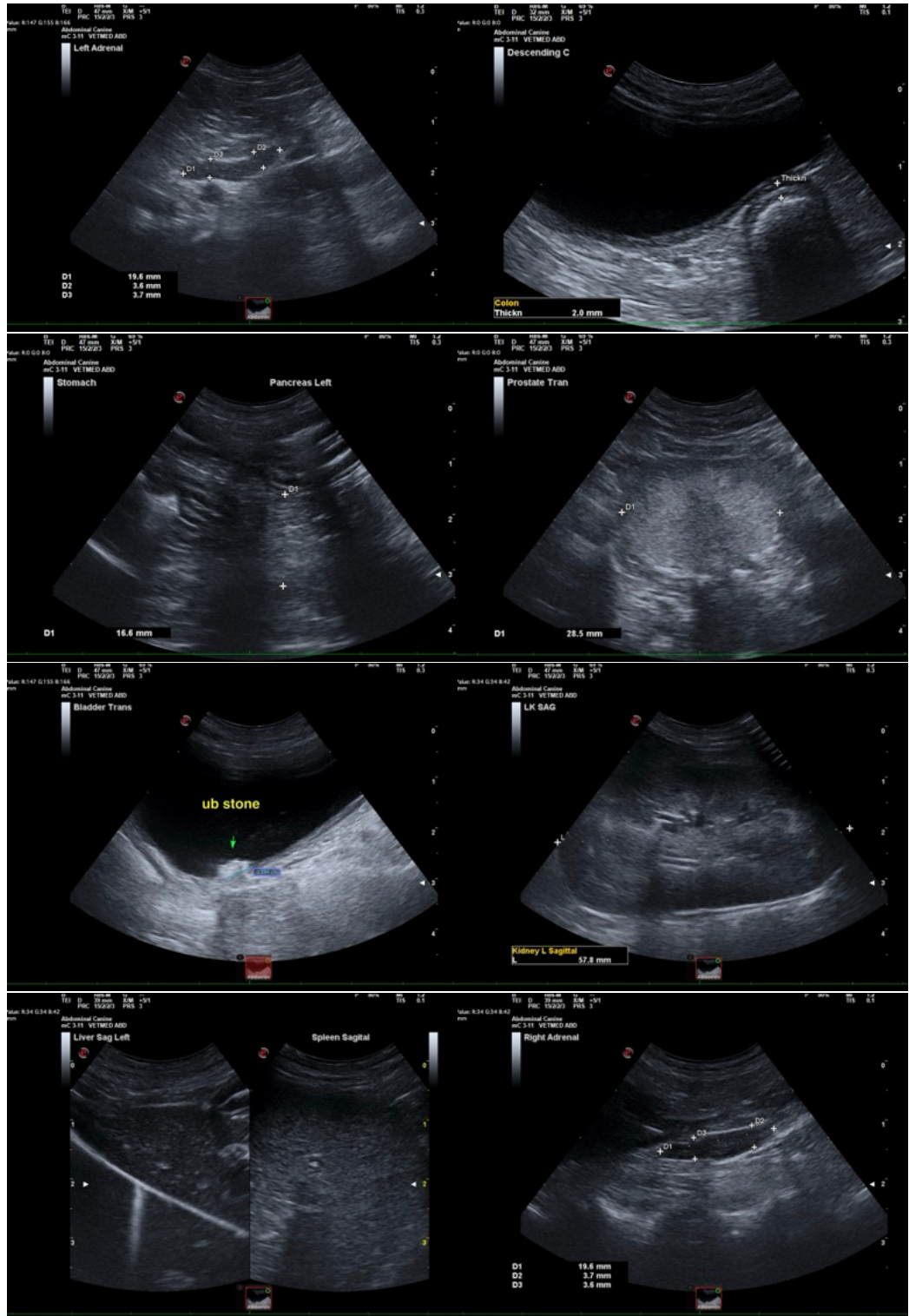
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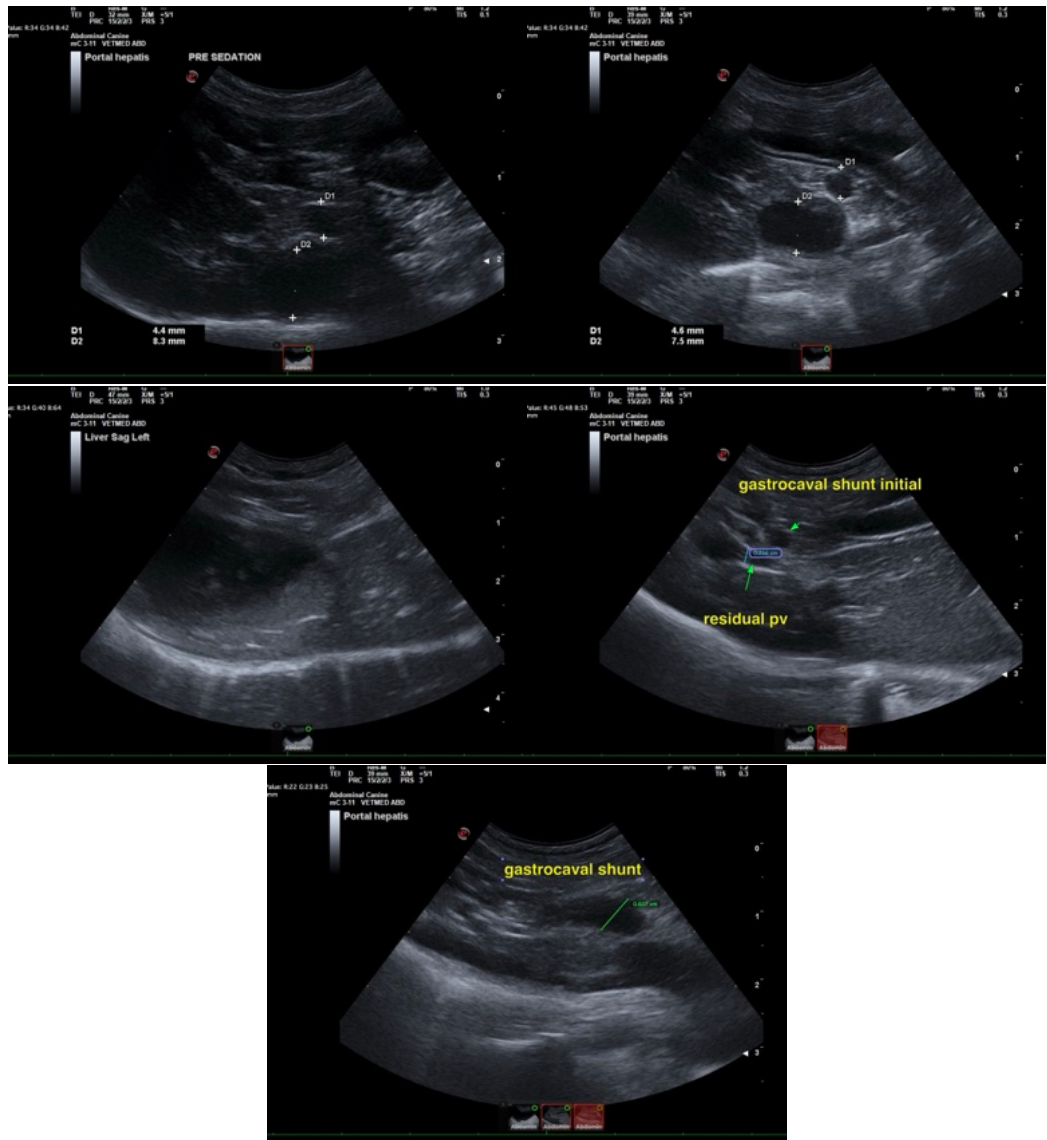
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP (CFM), Cert. IVUSS, CEO of SonoPath.com

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