



**PATIENT PRESENTING CLINICAL SIGNS**

Risky Sartain

History of chronic dental disease and currently needs major dental work. Consecutive blood work shows increasingly severely elevated Globulins and total proteins. Urinary incontinence not resolving. Concern for Multiple myeloma or other gammopathy.

**SPECIES**

Canine

Abnormal PE/Chem/CBC/UA Results: RAD report: Conclusion Normal cardiopulmonary structures. Moderate hepatomegaly. Grossly normal urinary tract morphology. Definitive spinal lesions to suggest myeloproliferative disease are not identified. Abnormal LABS: Abnormal CBC Values 1.24.23: RETIC HGB 24.0 PLATELET 549 LYMPHOCYTE 697 Abnormal Chemistry Values 1.24.23: CREATININE 0.3 mg/dL TOTAL PROTEIN 10.3 g/dL ALBUMIN 2.3 g/dL GLOBULIN 8.0 g/dL ALB/GLOB RATIO 0.3 ALP 202 U/L CHOLESTEROL 117 mg/dL CREATINE KINASE 305 U/L 1.30.23 TOTAL PROTEIN 10.0 g/dL GLOBULIN (EPH) 7.3 g/dL BETA 2 1.90 g/dL GAMMA 3.83 g/dL

**BREED**

Dachshund

**SEX**

Spayed Female

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**AGE**

14 Years 10 Months

**Urinary System**

The urinary bladder is moderately distended with anechoic urine. The Bladder wall is diffusely mildly thickened, and the mucosa is mildly irregular. The trigone, ureteral papillae, and visible urethra (to a depth of 2cm) appear normal with no evidence of severe mucosal irregularities, or cystic calculi. In some areas, the bladder wall irregularities are somewhat focal, possibly consistent with mass irregularities, but more consistent with diffuse cystitis and possibly polypoid changes. Findings are most consistent with bacterial cystitis or lack of urine distension. Recommend urinalysis and culture.

**WEIGHT**

8 Pounds

**INTERPRETED BY**

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

The left kidney has a normal shape and size (4.22 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques, LVT

The right kidney has a normal shape and size (4.2 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

**HOSPITAL NAME**

FourPaws AC

**Adrenal Glands**

The left adrenal gland is borderline large and slightly irregular, measuring 0.60 cm at the cranial pole, 0.86 cm at the caudal pole, and 1.71 cm in length. It is observed in its normal position cranial to the left renal artery. It is slightly irregular in appearance in that the caudal pole is prominent, but not an overt mass or nodule. Continued monitoring of this area is warranted. There is no evidence of vascular invasion.

**REFERRING VET**

Dr. Susan Lester

The right adrenal gland is normal in size measuring 0.57 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

**INVOICE**

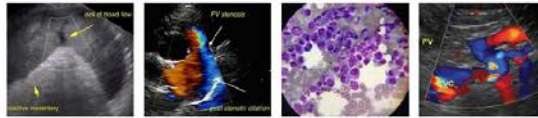
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**Spleen**

**DATE**

2/15/23

The spleen is large in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a



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somewhat cavitated mixed echogenic lesion that deviates the splenic capsule visualized measuring 1.52 cm x 1.51 cm.

**Liver**

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Canine

The liver is large in size, and normal in echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. No focal nodules or cystic lesions are observed.

**BREED**

Dachshund

The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris. There is a large amount of primarily non-organized echogenic debris. There is no evidence of bile duct dilation.

**SEX**

Spayed Female

**Gastrointestinal**

**AGE**

14 Years 10 Months

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

**WEIGHT**

8 Pounds

The visualized areas of duodenum, jejunum and ileum have a uniform diameter with minimal fluid distension. Wall thickness is moderately increased. Bowel loops follow a typical curvilinear path. Some areas have reduced detail of wall layering. Jejunum wall measures 0.47 cm. Duodenum wall measures 0.51 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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MS, Diplomate ACVIM  
(Small Animal Internal  
Medicine)

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

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LVT

**Pancreas**

The pancreas is prominent and mottled compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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**Free Abdomen**

Evaluation of the peritoneal cavity did not reveal any evidence of effusion. there are occasional visible/prominent mesenteric lymph nodes measuring 0.28 cm and 0.53 cm. The omentum is generally of normal echogenicity.

**REFERRING VET**

Dr. Susan Lester

**Other**

The right auricle and pericardium were visualized and were unremarkable. No obvious pathology is visualized. If cardiac function evaluation is desired a full echocardiogram is warranted.

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**PRIMARY FINDINGS**

- Thickened irregular urinary bladder wall – Findings are most consistent with diffuse cystitis. Recommend a urinalysis and culture. An underlying neoplastic process cannot be ruled out.
- Cystic/cavitated splenic nodule/mass – This could represent a benign or neoplastic lesion. Consider a fine needle aspirate or splenectomy.

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- Prominent, mottled pancreas – The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.
- Large heterogeneous liver – The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy.
- Large gallbladder sludge – A large amount of debris is evident in the gall bladder with no evidence of a mucocele or associated inflammation at this time. This could represent an early mucocele or cholestasis, with minimal evidence of associated inflammation at this time. Continued monitoring of labwork and ultrasound are warranted for progression of this lesion. Ursodiol therapy could be considered.
- Subjectively thickened small intestine – The mild small intestinal wall changes may be a normal variant in this patient or could be consistent with an inflammatory process (e.g., inflammatory bowel disease).
- Visible/prominent mesenteric lymph nodes – The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.

**SECONDARY FINDINGS**

- Prominent caudal pole of the left adrenal gland – No overt lesion is visualized, but continued monitoring is warranted.
- Decreased corticomedullary distinction in both kidneys – The bilateral renal findings are consistent with age-related change.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

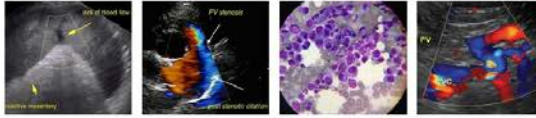
Many of the lesions noted could be considered within normal limits for an older Dachshund. The irregular urinary bladder is significant, and a urinalysis and culture should be performed. If an infection is identified and treated, then consider reevaluation of the urinary bladder wall for resolution of these lesions. If they don't resolve, then further testing for underlying neoplasia may be indicated.

The cystic lesion in the spleen is concerning for possible early neoplastic lesion, but a cystic benign lesion is also possible.

The spleen and liver are somewhat large in size. Given the globulin elevations, a fine needle aspirate of these areas could be considered.

If a polyclonal gammopathy is identified, you're on a hunt for general inflammatory disease such as the cystitis, pancreatitis, etc. If a monoclonal gammopathy is identified, then cancer is much more of a concern, and fine needle aspirates of the liver and spleen should be considered, as well as screening for ehrlichiosis.

Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement.



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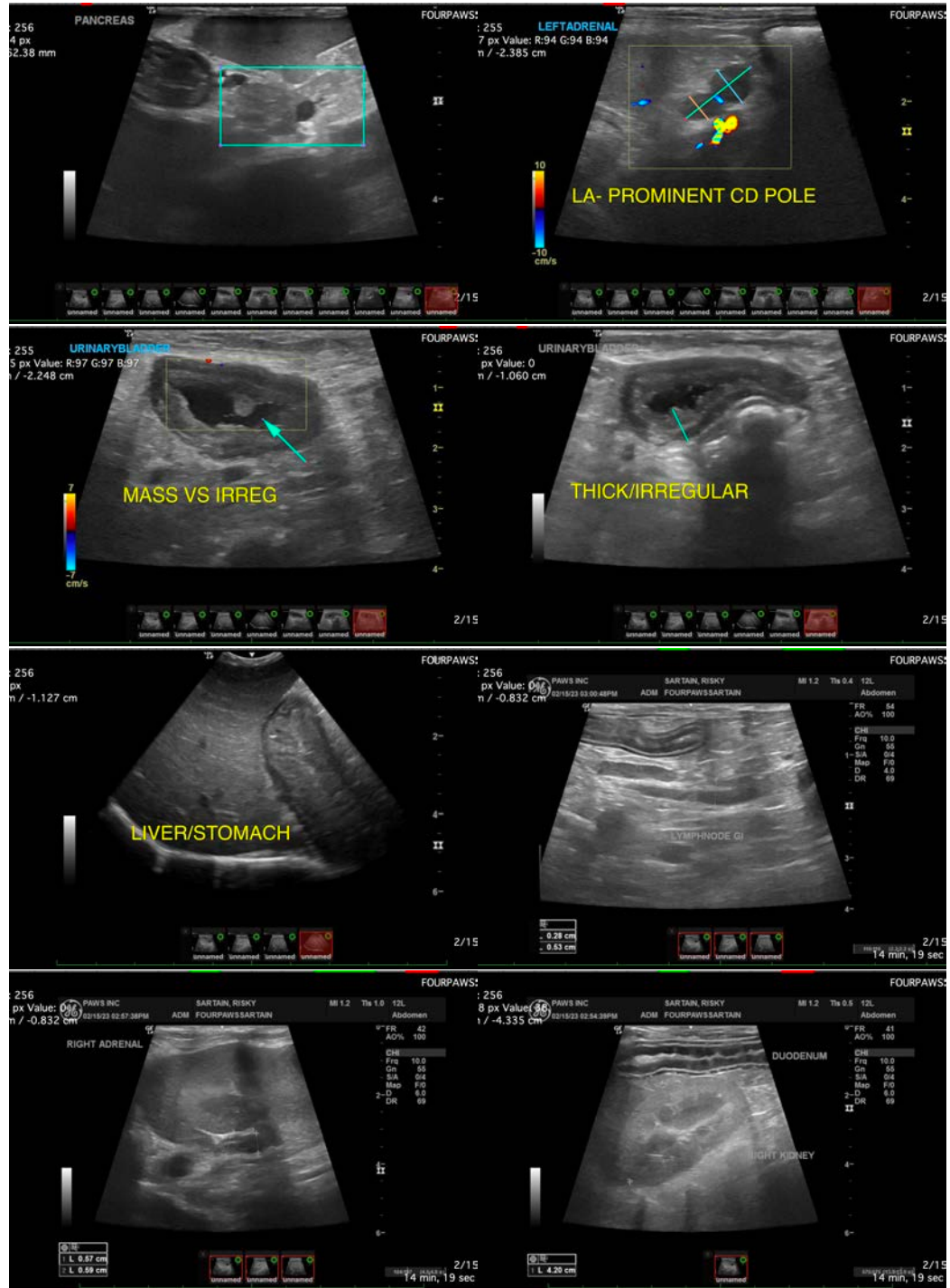
Dr. Susan Lester

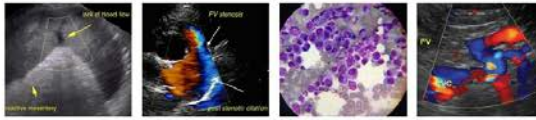
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Kathleen Sennello DVM,MS, Diplomate ACVIM (Small animal Internal Medicine)

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