



**PATIENT**

Maui Jin

**PRESENTING CLINICAL SIGNS**

Persistently Dilute Urine

**SPECIES**

Canine

Abnormal PE/Chem/CBC/UA Results: Persistently Dilute Urine - DDx: Central diabetes insipidus (ADH deficiency), primary renal insufficiency, hyperadrenocorticism (Cushing's disease), psychogenic PD. The patient has a history of dilute urine on a previous check, warranting further investigation to rule out underlying systemic disease.

**BREED**

Pug x

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**SEX**

Spayed Female

The urinary bladder, trigone, and visible pelvic urethra were of normal thickness. The ureters were not visible which is normal. There was normal wall layering with no masses, uroliths or abnormal thickening visualized. Urine was anechoic. No evidence of inflammatory or neoplastic changes were noted.

**AGE**

16 Years

The kidneys have a smooth capsule and with mild hazing of corticomedullary definition. No evidence of pelvic dilation was present. Left kidney measures 3.9 cm. Right kidney measures 4.43 cm.

**Adrenal Glands**

**WEIGHT**

6.9 kg

The left adrenal gland is visualized and recognized as having normal shape, size, position and echogenicity for this breed and age. The visible phrenic vasculature was unremarkable. Left measures 2.02 cm in length x 0.52 cm at the caudal pole and 0.59 cm at the cranial pole.

**INTERPRETED BY**

Dr Brittany Sinclair,  
 BVSc(hons),  
 DACVECC

The right adrenal gland is visualized and measured on still images only. Resolution is inadequate to assess glandular detail or confirm measurement. Right measures 1.6 cm in length x 0.50 cm in thickness.

**Spleen**

**IMAGING PERFORMED BY**

Kelly Reschny

The spleen had a generally smooth homogeneous parenchyma and a slightly irregular capsule with a solitary hyperechoic nodule visualized most consistent with benign myelolipoma. There was normal splenic vasculature with no signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarct changes were noted.

**HOSPITAL NAME**

BPH Ancaster

**Liver**

The liver is subjectively normal in size with normal contours and structure. There is age appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion.

**REFERRING VET**

Dr. Davis

Gall bladder is moderately distended with normal wall thickness and anechoic contents. Common bile duct is non-distended and tapers normally.

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**Gastrointestinal**

**DATE**

1/28/26

The stomach contains minimal luminal contents. It measures at a normal thickness of with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall



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layering maintaining the typical 1:3 muscularis:mucosa layer ratio. There were no focal lesions consistent with obstruction or a mass effect observed.

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.

***Pancreas***

The area of the pancreas was isoechoic to surrounding tissue with no overt inflammation. Pancreatic tissue was not distinctly visualized which is common.

***Free Abdomen***

No clinically significant lymphadenopathy or abnormalities noted. No free fluid noted.

**ULTRASONOGRAPHIC FINDINGS**

- Aging renal changes.
- Splenic myelolipomas, benign aging change.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

There is no obvious cause of hyposthenuria on abdominal ultrasound. Hyposthenuria is often a cause of PU/PD. The most common causes of pu/pd in dogs include renal disease, diabetes mellitus and hyperadrenocorticism. No explanation for pu/pd clinical signs was identified on ultrasound or reported lab work. Early renal insufficiency is a possible cause. Urine culture is recommended to screen for occult UTI as a possible cause, though this is also unlikely. Adrenal gland function testing is recommended despite normal appearance of adrenal glands, as hyperadrenocorticism cannot be ruled out based on normal appearing adrenal glands and is a common cause of significant pu/pd. If adrenal function testing is normal, rarer causes of pu/pd should be considered such as hyperthyroidism, hypercalcemia, diabetes insipidus (central or nephrogenic). Additional tests to be considered include ionized calcium measurement (even if total is normal), thyroid testing, bile acid profile, leptospirosis testing, and ultimately a desmopressin trial to investigate for central diabetes insipidus if other causes have been ruled out. Ultimately MRI may be required to screen for primary neurologic causes. Psychogenic polydipsia is an idiopathic cause of pu/pd and is a diagnosis of exclusion.

Splenic changes are a common age related change and hyperechoic areas are most consistent with benign myelolipoma, but infiltrative disease (lymphoma, MCT, other) cannot be definitively ruled out. No significant disruption of architecture noted to suggest significant pathology. Fine needle aspirate could be considered to further characterize parenchymal changes if clinically indicated, especially if any weight loss is noted or for baseline cytological assessment.



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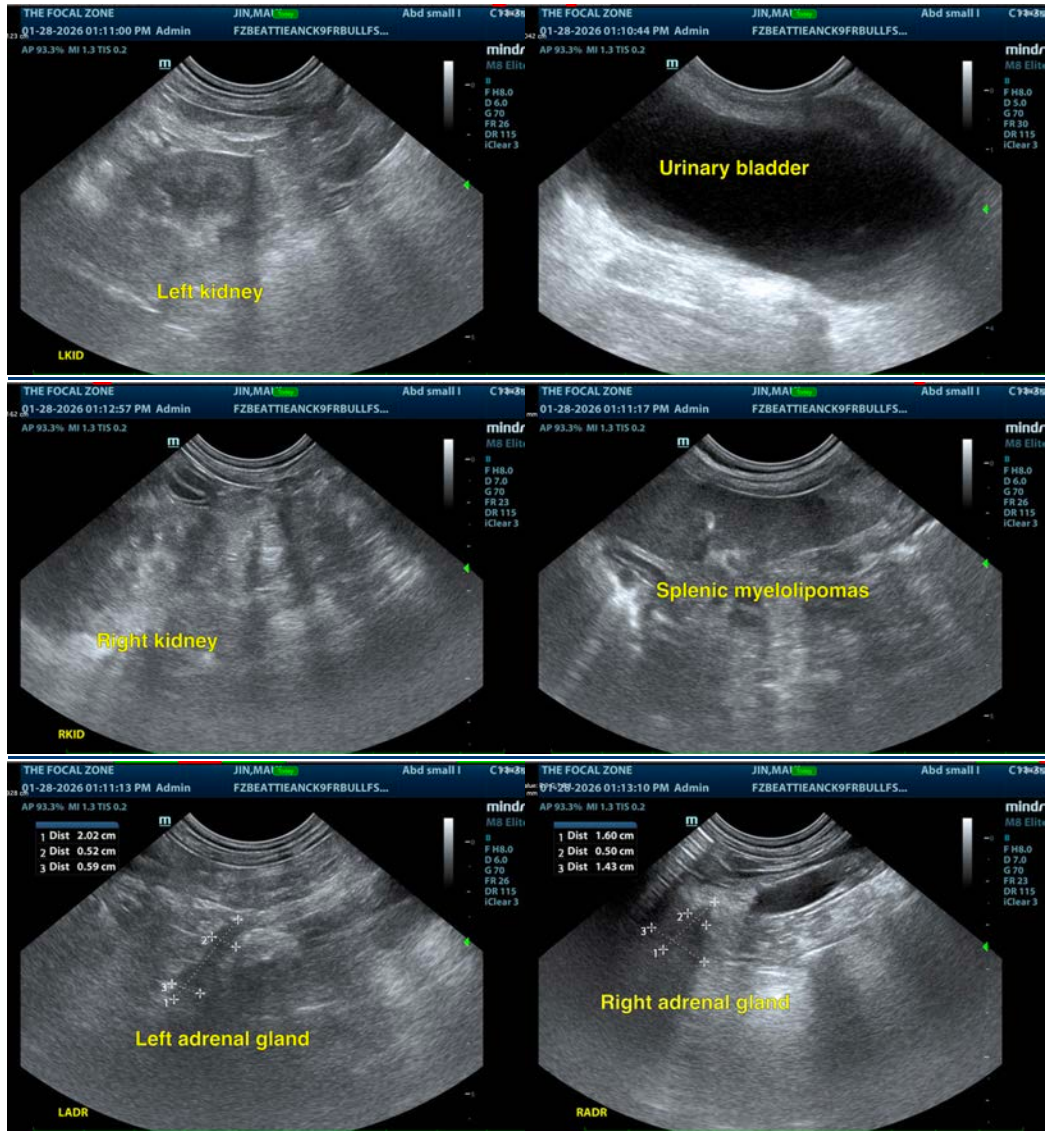
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Dr Brittany Sinclair, BVSc(hons), DACVECC

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