



**PATIENT PRESENTING CLINICAL SIGNS**

Sasha Paliana Persistent ALKP elevation. On Denamarin.

**SPECIES** Abnormal PE/Chem/CBC/UA Results: 12/10/23: ALKP 279, 1/10/23 ALKP 494, 2/10/23 ALKP 482.  
Canine UA: calcium oxalate crystals; USPG 1.039 on 3/3/23

**BREED ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Shih Tzu Urinary System**

The urinary bladder is adequately distended with primarily anechoic contents as well as some echogenic suspended debris and several (at least 3-4) shadowing cystoliths measuring approximately 0.40 cm in size. Additionally, there is a solitary heterogeneous mass lesion in the trigone/proximal urethra area measuring 1.2 cm x 0.9 cm in size.

**SEX**

Spayed Female

**AGE**

12 Years

The right kidney is normal in size (4.84 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. Small non-obstructive nephroliths are noted.

**WEIGHT**

18.9 Pounds

The left kidney is normal in size (3.92 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia or infarcts observed. Small non-obstructive nephroliths are noted.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**Adrenal Glands**

Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Some parenchymal heterogeneity is present without concerning capsular distortion. Visible surrounding vasculature appears normal. The left adrenal gland measures 2.68 cm long x 0.91 cm at the cranial pole and 1.39 cm at the caudal pole. The right adrenal gland measures 3.21 cm long x 0.82 cm at the cranial pole and 1.43 cm at the caudal pole.

**IMAGING PERFORMED BY**

Diane McFadden

**Spleen**

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

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**Liver**

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

**REFERRING VET**

Dr. Weingartner

**INVOICE**

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The gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

**DATE**

3/15/23

**Gastrointestinal**

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions



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per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease.

**SPECIES**

Canine

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

**BREED**

Shih Tzu

**Pancreas**

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

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**Free Abdomen**

There is no evidence of free peritoneal effusion noted in these images.

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There is no apparent lymphadenopathy noted in these images.

**WEIGHT**

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**ULTRASONOGRAPHIC FINDINGS**

- **Urinary bladder mass with concurrent cystoliths** – Urinary bladder wall changes are most concerning for infiltrative neoplasia such as transitional cell carcinoma vs other. Benign inflammatory disease (cystitis) cannot be ruled out but is considered less likely given the location and appearance of the tissue.
- **Bilateral adrenomegaly** – consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.
- Small bilateral non-obstructive nephroliths

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**IMAGING PERFORMED BY**

Diane McFadden

Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

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Urinalysis and urine culture, if indicated based on urinalysis results, are recommended. Submission of urine to look for BRAF gene mutation, which is associated with urinary bladder cancer, could be considered. Other diagnostic options include traumatic catheterization, fine needle aspirate (with small risk of tumor seeding/trailing) or cystoscopy for further sampling.

**REFERRING VET**

Dr. Weingartner

Given the adrenal gland changes, the increased ALP is likely secondary to mild or early hyperadrenocorticism. Having said that, testing for hyperadrenocorticism should not be pursued without supporting clinical signs such as PU/PD, etc., and/or in the face of concurrent illness. Therefore, in this patient, addressing the urinary bladder mass is recommended first.

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**REFERRING VET**

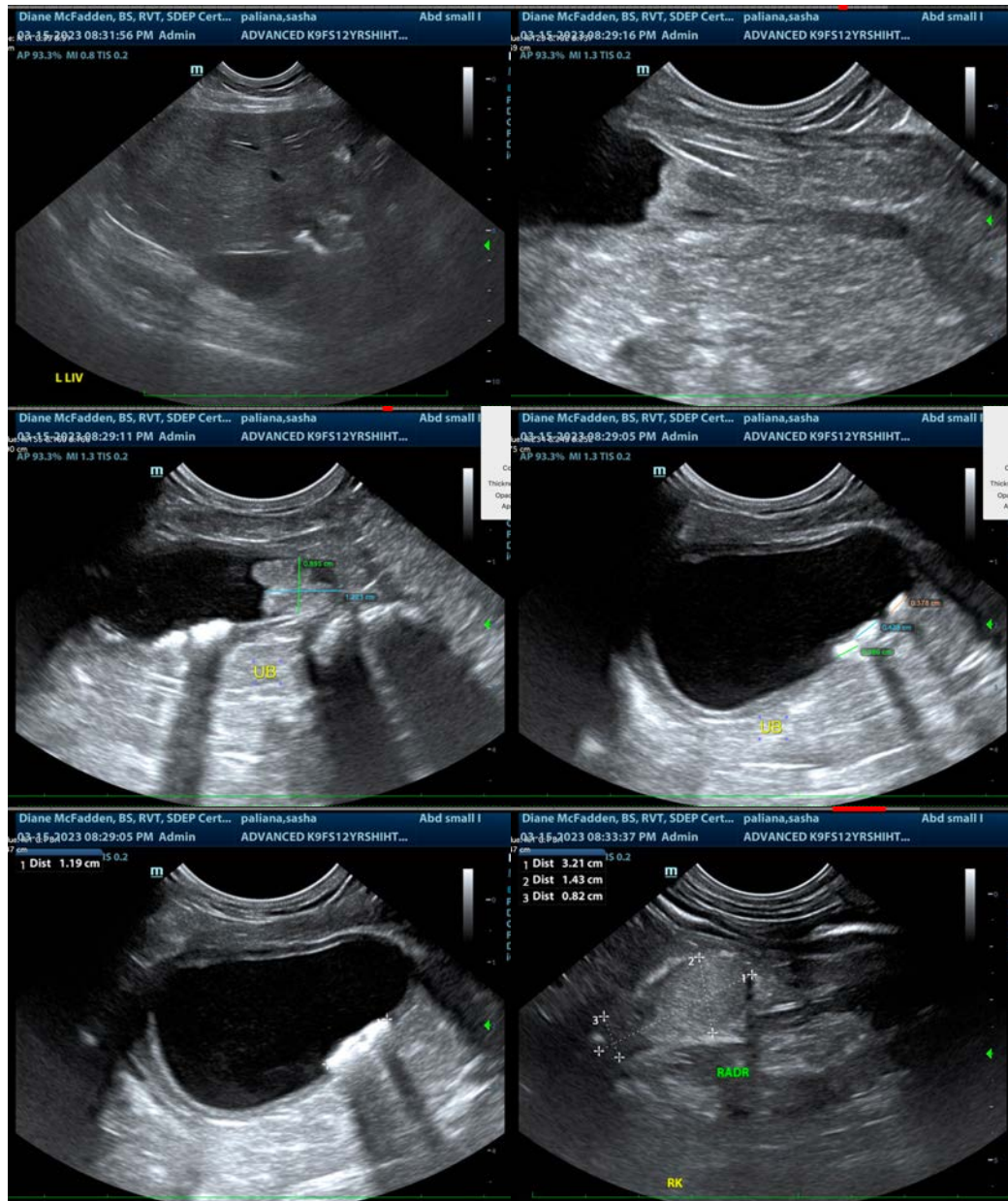
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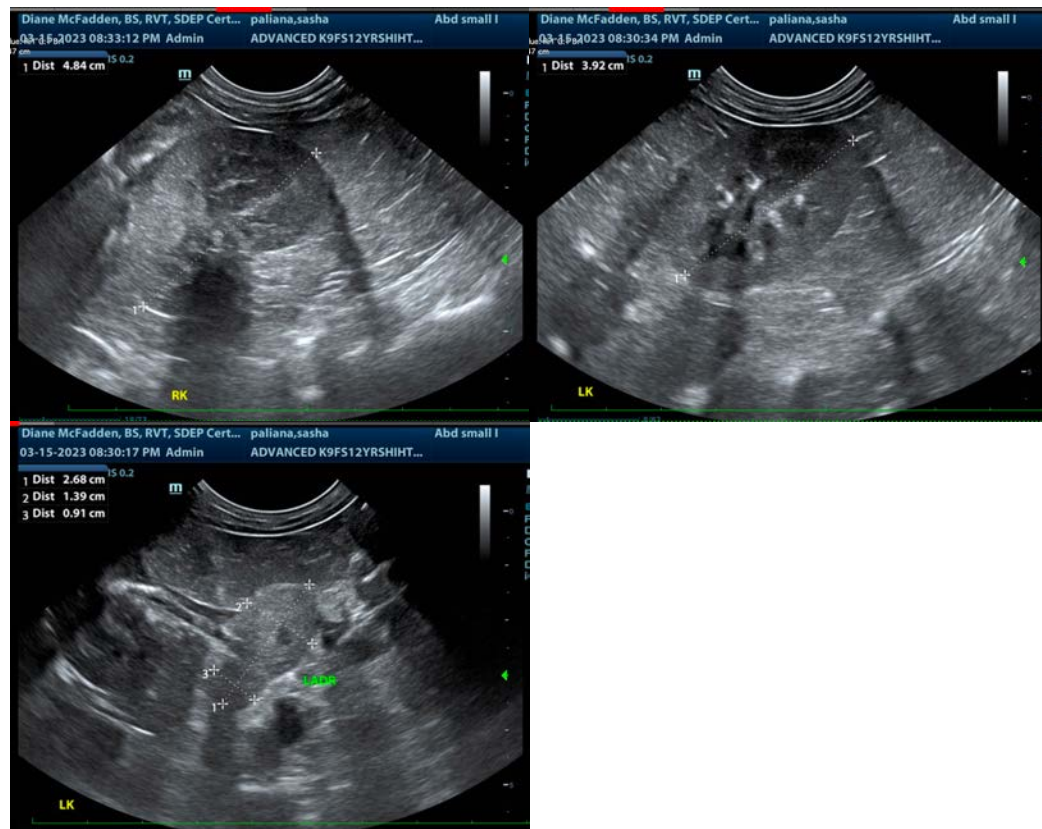
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Beth Johnson, DVM, DACVIM**  
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