



**PATIENT**

Clarice Anderson

**PRESENTING CLINICAL SIGNS**

Clinical Exam Findings: P is a female, spayed 9-year-old Miniature Schnauzer that presented for her annual exam. E/D normally; no V/D C/S. Abdominal palpation normal and lipoma present on chest.

**SPECIES**

Canine

Abnormal lab-work values: ALT elevated 135 U/L. ALP elevated 682 U/L

Current Medications: Bravecto and Proheart. Plans to start Denamerin

**BREED**

Schnauzer

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder wall is normal in thickness and the mucosal surface is smooth. The bladder lumen is mildly to moderately distended with anechoic urine. No masses, inflammatory changes or calculi are observed. The region of the trigone and visible portion of the proximal urethra are normal.

**SEX**

Spayed Female

The left kidney is normal in size (4.56 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. There is no evidence of pyelectasia, infarcts or hydronephrosis. Renal vasculature is normal.

**AGE**

08/15/2013

The right kidney is normal in size (5.09 cm in length) with a normal shape, smooth peripheral margins, and normal internal architecture. There is mild loss of corticomedullary distinction. Several hyperechoic shadowing diverticular foci are observed. A few small nonobstructive nephroliths are visualized. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

**WEIGHT**

19 lbs

**Adrenal Glands**

The left adrenal gland is borderline enlarged (0.63 cm at cranial pole) (0.58 cm at caudal pole) with a normal shape and homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**INTERPRETED BY**

Andrea Nicastro, DVM,  
Diplomate ACVIM (*Small  
Animal Internal Medicine*)

The right adrenal gland is prominent at the cranial pole (1.04 cm) and normal in size at the caudal pole (0.48 cm). The parenchyma at the cranial aspect is mildly heterogenous with some loss of gland. Glandular echogenicity and detail at the caudal aspect are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

**IMAGING PERFORMED BY**

Andrea Nicastro, DVM,  
Diplomate ACVIM (*Small  
Animal Internal Medicine*)

**HOSPITAL NAME**

Foxbank VH

**Spleen**

The spleen is normal in size (1.49 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

**REFERRING VET**

Ashley Parsons

**Liver**

The liver is subjectively enlarged with slightly swollen peripheral contours. The parenchyma is isoechoic relative to the spleen and diffusely homogeneous in appearance. No distinct focal lesions are observed. Vascular and biliary tracts are of normal volume with no evidence of congestion. The portal vein to caudal vena cava ratio is approximately 1: 1.

**INVOICE**

12125

The gall bladder lumen is moderately distended. The wall is thin and smooth. Luminal contents are mostly anechoic. The cystic and common bile ducts are normal/not seen.

**DATE**

2.2.23

### ***Gastrointestinal***

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is not distended. The gastric wall and pylorus are normal in thickness with a normal layering pattern. The pyloric outflow tract is patent. The small intestinal lumen is not dilated. The small intestinal wall thickness is normal with a normal layering pattern and appropriate mural detail. Discreet masses are not identified. The colonic wall is normal. There is no evidence of an obstructive pattern.

### ***Pancreas***

The right limb of the pancreas is visible with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic inflammation or effusion. The mesentery effacing the serosal surface of the right limb is slightly hyperechoic.

### ***Free Abdomen***

There is no obvious evidence free fluid. abdominal lymph nodes are normal/not visible.

### ***Other***

A brief echocardiogram reveals no evidence of pericardial effusion or obvious right atrial/auricular mass.

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings**

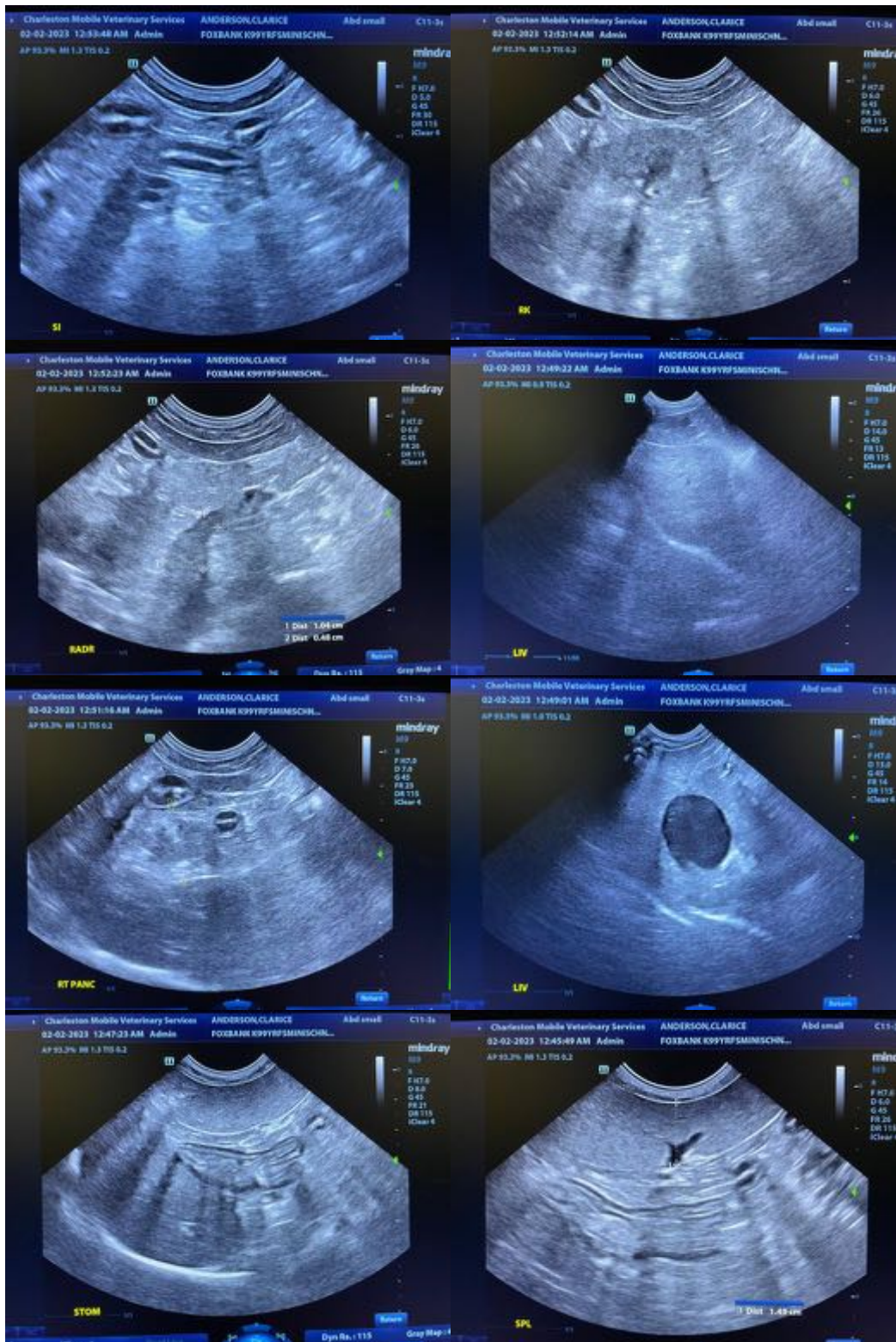
- The hepatic changes are most consistent with a benign process. Vacuolar hepatopathy (i.e., idiopathic/endocrine) is the top differential. Given the liver enzyme pattern, inflammatory disease is considered less likely. Infiltrative neoplasia is possible but considered unlikely (in light of the fact that the patient is asymptomatic).

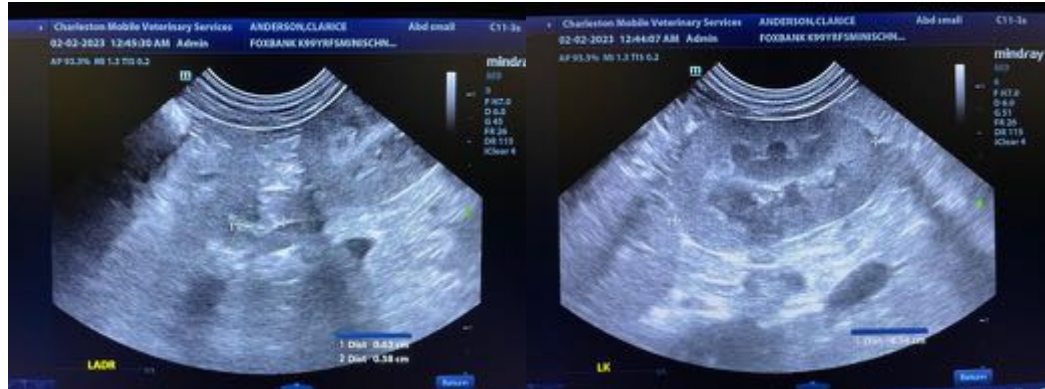
### **Secondary Findings**

- Borderline bilateral adrenomegaly. Early hyperplastic change is suspected,
- The pancreatic changes in the right limb are suggestive of age-related remodeling +/- chronic pancreatitis. Correlation with the patient's clinical history is recommended.
- Bilateral chronic renal changes with nonobstructive nephrocalcinosis

## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

- Serial monitoring (i.e., every 3-4 months) of the patient's liver values is recommended. If values continue to increase, a repeat abdomen ultrasound +/- a more advanced hepatic work-up (i.e., tissue sampling) may be warranted.
- Consider testing for hyperadrenocorticism with a low-dose dexamethasone suppression test or ACTH stimulation test if clinical signs (i.e., PU/PD) develop.
- As a precaution if the patient is to undergo anesthesia, benzodiazepine should be avoided and opioids used judiciously.





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.

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