



PATIENT

Nikki Kellar

SPECIES

Canine

BREED

Chiweenie

SEX

Intact Female

AGE

1 year

WEIGHT

3.5 kg

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

**IMAGING
PERFORMED BY**

Dr. Callihan

HOSPITAL NAME

Dr. Callihan/Pacific
Crest Mobile

REFERRING VET

Dr. Sandors Skagit AC

INVOICE

30022

DATE

4/29/22

PRESENTING CLINICAL SIGNS

Eval for persistent elev liver enzymes, mild. Kind of up and down over past months. 168 on 1/14/22, 290 1/28/22, 175 on 3/4/22. Limping long term on right pelvic limb, today was diagnosed with necrosis of femoral head Pt is eating well, good coat and body condition, stable weight
Abnormal PE/Chem/CBC/UA Results: Chems 4/22: ALT 283, AST 55 (sl elev), ALKP normal; pre and post bile acids are normal; CBC nor

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urogenital System

The urinary bladder is well distended with anechoic contents. The wall is smooth and regular. No abnormalities are noted with the trigone or proximal urethra, and there is no evidence of cystoliths, polyps or a mass. A trivial amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

Kidneys

The **left** kidney measures 3.50 cm. The capsule is smooth and its overall architecture, including the definition of the cortico-medullary junction, are preserved. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 3.70 cm. The capsule is smooth and its overall architecture, including the definition of the cortico-medullary junction, are preserved. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

Ovaries

No abnormalities are observed with the ovaries.

Uterus

The uterine body is within normal limits.

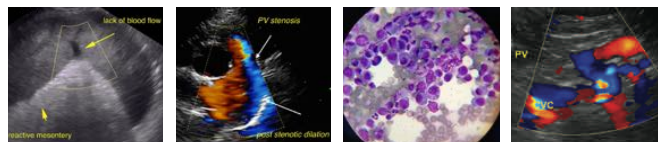
Aortic bifurcation/trifurcation

No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.29 cm at the cranial pole and 0.28 cm at the caudal pole. Although no abnormalities are noted with the gland's echogenicity or echotexture, it is thinner than normal. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

The **right** adrenal gland measures 0.38 cm in diameter; 0.36 cm at the cranial pole and 0.29 cm at the caudal pole. No abnormalities are noted with the gland's architecture, echogenicity or echotexture, it is



PATIENT	mildly thinner than the normal reference range. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.
Nikki Kellar	
SPECIES	Spleen
Canine	The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.
BREED	Liver
Chiweenie	
SEX	There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The liver's echotexture is homogeneous and it is within normal limits in echogenicity. No focal lesions are observed. There are no obvious signs of a portosystemic shunt.
Intact Female	
AGE	The gallbladder wall is within normal limits in thickness and echogenicity. There is no evidence of echogenic material within the GB or edema surrounding it. The common bile duct is not observed, however, there are no signs of an obstruction.
1 year	
WEIGHT	Gastrointestinal
3.5 kg	The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.
INTERPRETED BY	The small intestinal wall thickness, including the duodenum, is within normal limits and the definition of the wall layers is preserved. Abnormally dilated loops of bowel are not observed.
Lisa Carioto, DVM, DVSc, Diplomate ACVIM	The colonic wall is not thickened and mural detail is considered normal.
IMAGING PERFORMED BY	There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction in the gastrointestinal tract.
Dr. Callihan	Pancreas
HOSPITAL NAME	No overt abnormalities are observed with the parenchymal echogenicity or echotexture. There is no evidence of hyperechogenicity of the surrounding mesentery, i.e., signs of active pancreatitis are not present.
Dr. Callihan/Pacific Crest Mobile	
REFERRING VET	Other
Dr. Sandors Skagit AC	Lymph nodes
INVOICE	No abnormalities are observed
30022	
DATE	Abdominal effusion is not visualized.
4/29/22	



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ULTRASONOGRAPHIC FINDINGS

- An obvious cause for the elevated ALT enzyme activity is not identified on today's abdominal ultrasound. Although sonographic abnormalities are not observed, an underlying hepatopathy, such as immune-mediated hepatitis, hepatitis due to infectious causes, toxin exposure, medications, etc., cannot be excluded. It should be noted that mild, intermittent elevations of the ALT enzyme may also occur secondary to gastrointestinal diseases, such as inflammatory bowel disease.
- The echogenicity and echotexture of the adrenal glands are within normal limits, however, they are slightly thin, when compared to the normal reference range. This may be normal for Nikki, however, one should keep this finding in mind if Nikki ever demonstrates signs of lethargy, depression, polydipsia and polyuria, and/or gastrointestinal signs, which may be suggestive of hypoadrenocorticism.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

AGE

1 year

Although a fine needle aspirate of the liver may be pursued, it does not yield information regarding hepatic architecture. The latter is achieved by obtaining a tissue biopsy. However, prior to pursuing invasive procedures, the following recommendations are suggested, for example,

WEIGHT

3.5 kg

Evaluation of the CBC for microcytosis, which may be a sign of hypoplasia of the portal vein, previously known as microvascular hypoplasia.

A urinalysis to complete the minimum data base, ideally, performed on the first morning sample.

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

Deworming with a broad spectrum dewormer, even if Nikki receives a monthly heartworm prevention.

A veterinary prescription brand hypoallergenic diet, whether hydrolyzed or novel protein, for a minimum of 2 weeks.

IMAGING PERFORMED BY

Dr. Callihan

If Nikki is scheduled to be spayed, a liver biopsy could be performed at the same time as the ovariohysterectomy. However, a coagulation profile is suggested prior to performing a biopsy. Administration of vitamin K (0.5 mg/kg SQ q8-12h for 1-3 doses) is also suggested, even if the results of the PT/PTT are within normal limits.

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It would also be worthwhile freezing a portion of the hepatic tissue biopsy in case copper quantification of tissue is required.

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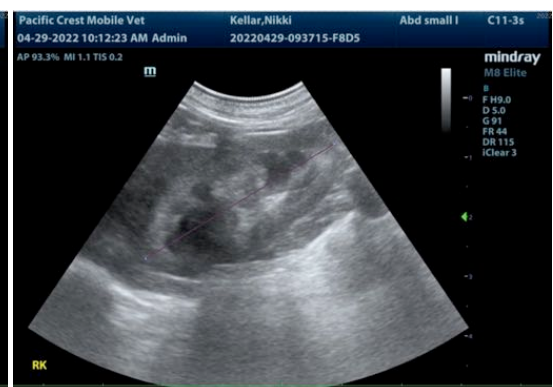
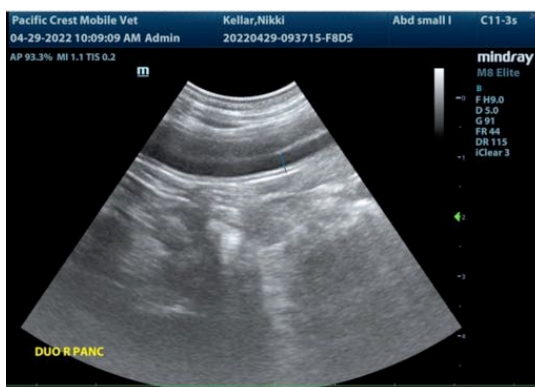
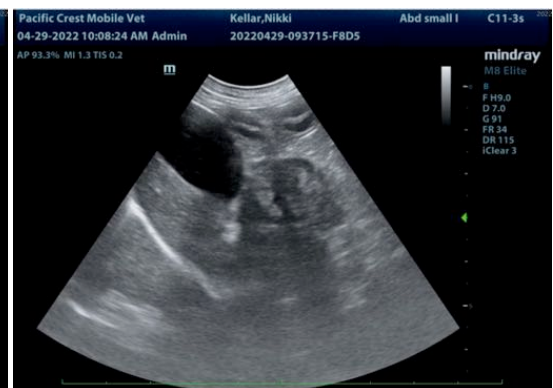
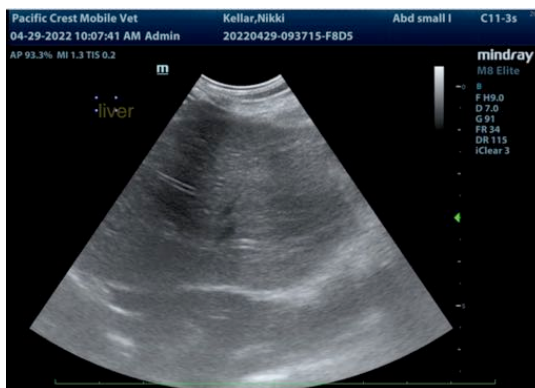
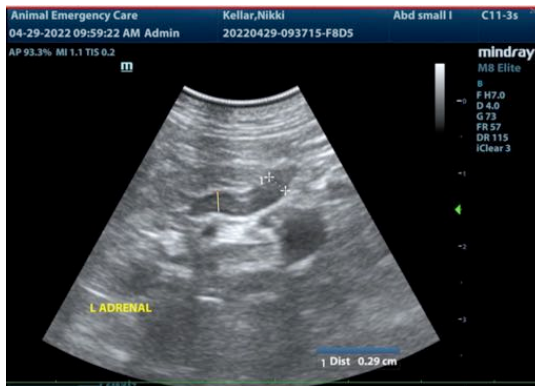
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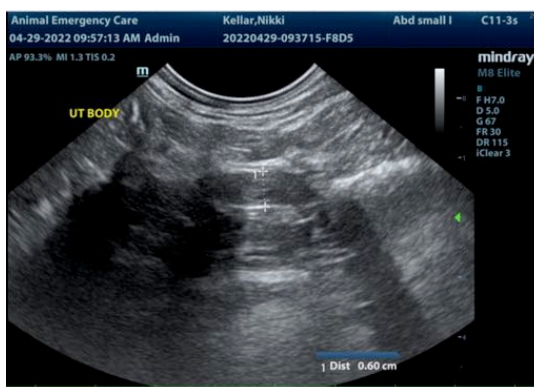
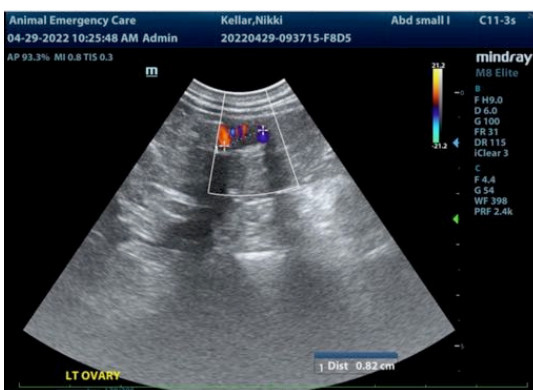
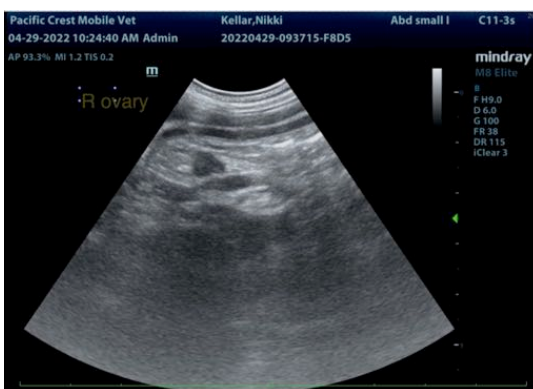
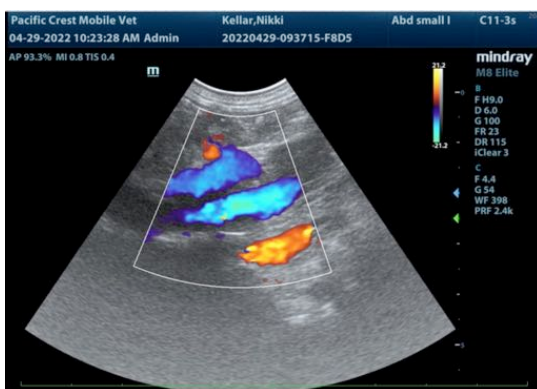
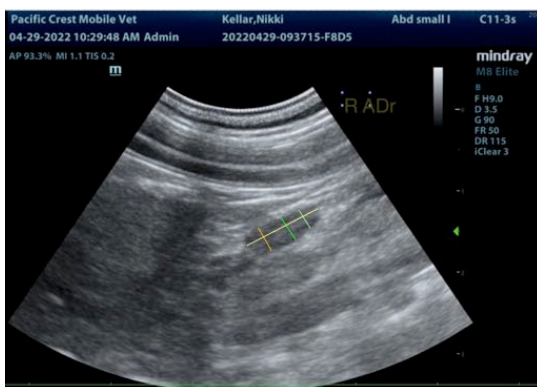
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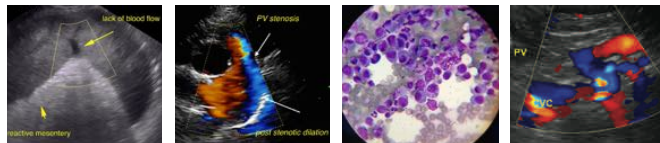
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

BREED

Chiweenie

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.

SEX

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Lisa.Carioto@sonopath.com

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