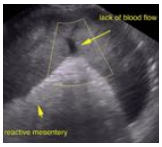

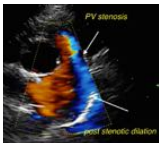

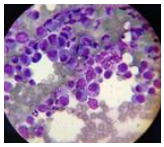
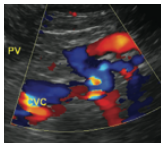

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PATIENT
Bo Heden

SPECIES
Canine

BREED
Longhaired Dachshund

SEX
Neutered male

AGE
16 years

WEIGHT
16.9 lbs

INTERPRETED BY
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

IMAGING PERFORMED BY
Dr. Ammeraal

HOSPITAL NAME
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PRESENTING CLINICAL SIGNS

History: Presenting from ER for having an episode last night of head tremoring for a few minutes then laid down Has been shaking most of the day Was being treated in past for Cushing's but stopped medications since patient kept having diarrhea on and off. Has been asymptomatic for Cushing's since. Abnormal PE/Chem/CBC/UA Results: Mild anisocoria., severe lenticular sclerosis , evidence of mild iris atrophy. ALKP 1127 U/L rest NSF pH 7.48

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** is adequately distended. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra. A very small amount of free floating sediment is present, however, there is no evidence of cystoliths, polyps or a mass.

The **prostate** is homogenous and within normal limits for a neutered male.

Kidneys

The **left** kidney measures 7.68 cm (3.2 cm – 5.2 cm), renomegaly. The capsule is smooth. The cortex is mildly hyperechoic and a mild loss of the normal definition of the cortico-medullary junction is present. There is no evidence of nephroliths or pyelectasia. A round, anechoic structure, with a smooth, thin wall, measuring 0.56 cm in diameter x 0.78 cm, is visualized at the cranial pole. It is most consistent with a benign cyst. A much smaller subcapsular cortical cyst is also present (2 mm x 2 mm) at the cranial pole. The surrounding mesentery is not hyperechoic.

The **right** kidney measures 7.02 cm. The capsule is slightly irregular. The cortex is mildly hyperechoic and a mild loss of the normal definition of the cortico-medullary junction is present. There is no evidence of nephroliths or pyelectasia. A round, anechoic structure, with a smooth, thin wall, measuring 3.52 cm in diameter x 3.92 cm, is visualized at the cranial pole. It extends into the medulla and pelvis. It is most consistent with a benign cyst. A much smaller subcapsular cortical cyst is also present (1 mm x 1 mm) at the cranial pole. The surrounding mesentery is not hyperechoic.

Aortic bifurcation/trifurcation No abnormalities observed.

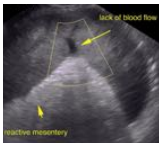
Adrenal Glands

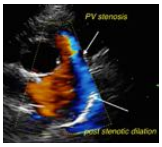
The **left** adrenal gland measures 0.67 cm at the cranial pole, 0.63 cm at the caudal pole and 1.84 cm in length. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. Occasional hyperechogenic foci are present at the cranial pole, which may be consistent with mineralization, fat, and/or fibrosis. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

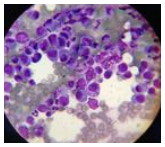
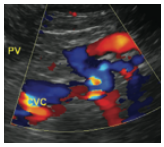
The **right** adrenal gland measures 0.64 cm at the cranial pole, 0.63 cm at the caudal pole and 2.00 cm in length. No abnormalities are noted with the gland's overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

Spleen

The spleen is within normal limits in size, architecture, echotexture, and echogenicity. The capsule is smooth. Perivascular cuffing, consistent with myelolipomas, is visualized. The latter are not considered





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clinically significant. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Liver

There are no obvious signs of hepatomegaly and its borders are smooth and sharp. The liver's echotexture is homogeneous; it has a very mild granular appearance. It is within normal limits in echogenicity. Focal lesions are not observed and no abnormalities are observed with the hepatic vessels. The mesentery surrounding the liver is moderately hyperechoic.

The **gallbladder** (GB) is moderately distended with a large amount of echogenic material (sludge), some of which has formed nodules and is adhered to the intramural wall. The GB wall is within normal limits in thickness and echogenicity. The portions of the cystic and/or common bile ducts observed are not dilated or tortuous, i.e. there are no signs of an obstruction. The parenchyma surrounding the GB is not hyperechoic.

Gastrointestinal

The gastric wall is within normal limits in thickness and the wall layers are well defined. No obvious abnormalities are observed with its peristalsis.

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.

The colonic wall is not thickened and mural detail is considered normal.

There are no obvious signs of a mass, foreign body, infiltrative disease or an obstruction in the gastrointestinal tract.

Pancreas

The pancreas has a mildly coarse echotexture, which is considered secondary to age related changes, however, previous episodes of pancreatitis cannot be excluded. The surrounding mesentery is not hyperechoic. There are no signs of active pancreatitis or neoplasia.

Other

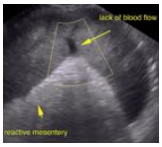
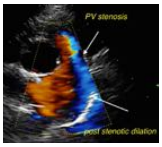
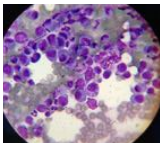
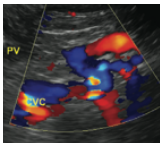
Lymph nodes No abnormalities are observed

Abdominal effusion is not visualized.

ULTRASONOGRAPHIC FINDINGS

A cause for Bo's head tremors is not evident based on today's abdominal ultrasound.

- **Kidneys:** Bilateral renal cysts (right kidney significantly larger than left) and renomegaly. Renomegaly may occur secondary to pyelonephritis or may be compensatory. Age-related changes also evident. Pyelonephritis cannot be excluded despite the absence of classical sonographic signs.

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- **Liver**: A reactive (non-specific) hepatopathy may be present. Obvious signs of hepatitis or other inflammatory hepatopathy are not evident. Signs of neoplasia are not appreciated.
- **Gallbladder (GB):** Gallbladder **sludge** is most likely clinically insignificant, however, gastroesophageal reflux disease (GERD), can occur in some patients. Obtaining a history regarding signs of GERD from the client is suggested. Treatment with an anti-acid or proton pump inhibitor may be required. Obvious signs of cholecystitis are not visualized.
- **Mesentery**: The mesentery surrounding the liver is moderately hyperechoic. A cause for this finding is not evident. Subclinical inflammation is possible, e.g. hepatitis, cholangitis/cholangiohepatitis, cholecystitis, however, overt inflammatory changes affecting the liver and gallbladder are not noted.
- **Adrenal glands**: There are no signs of a tumour to suggest neoplasia (pheochromocytoma).
- **Pancreas**: Age related changes observed

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Focal seizure is possible vs. ischemic episode or cerebral vascular accident

Arterial blood pressure to exclude hypertension or orthogonal hypotension

Vaso-vagal event?

SDMA to have baseline renal function

Urinalysis

Urine culture and sensitivity (exclude pyelonephritis)

Urine protein: creatinine ratio, if culture negative. Perform if USG less than 1.015, even if dipstick is negative for protein.

Gabapentin for pain, which also has anti-convulsant effects. Slow up-titration of dose recommended to avoid sedation and ataxia

Video of head tremor if recurs

+/- Echocardiogram

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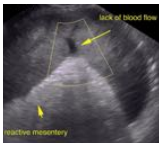
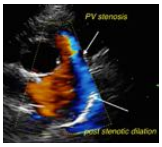
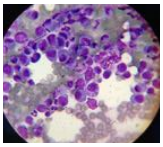
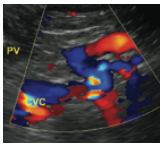

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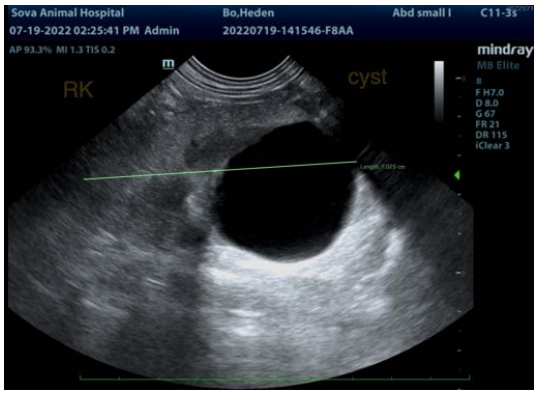

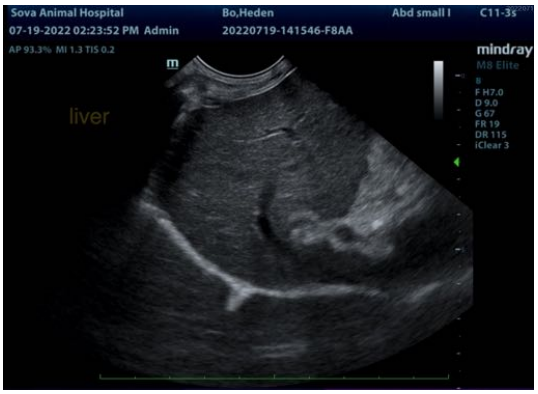

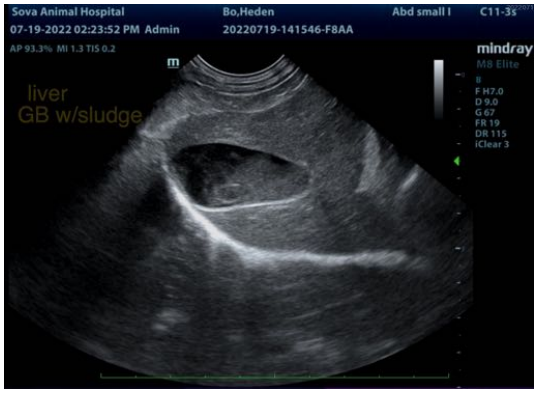

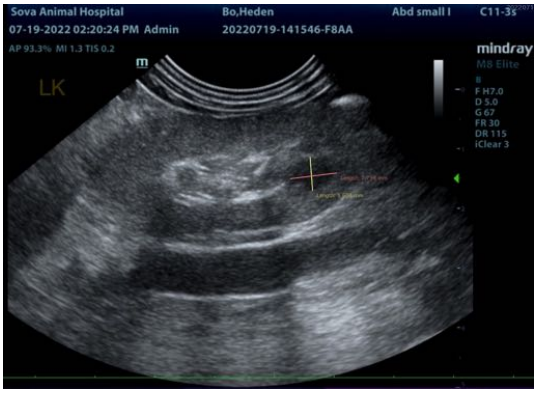

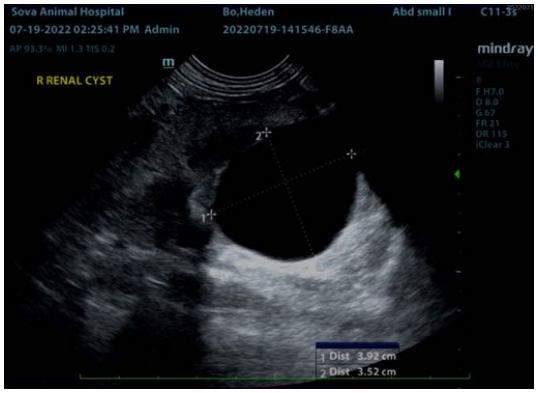

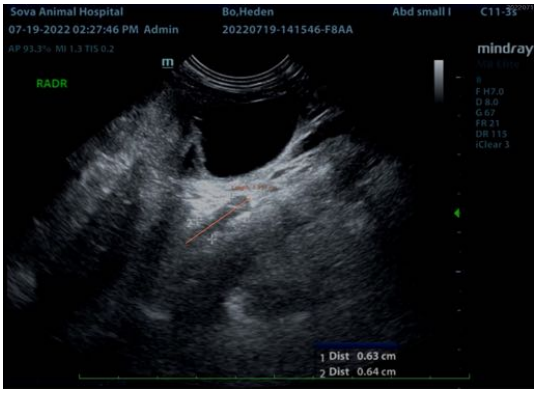

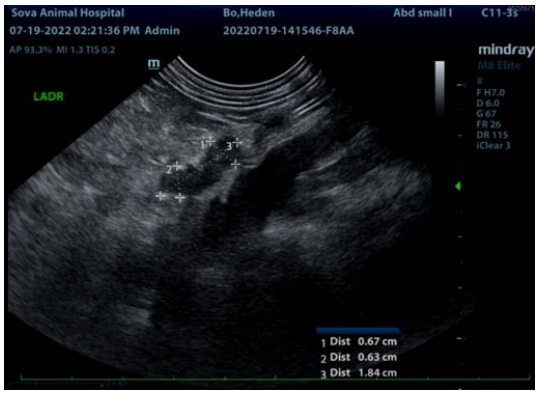

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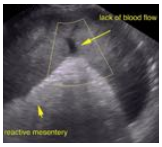

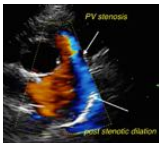

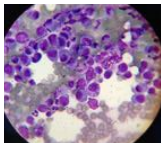
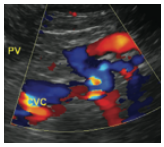

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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