



**PATIENT PRESENTING CLINICAL SIGNS**

Roo Pease  
Not eating well and weight loss. Mid-abdominal mass suspected.  
Abnormal PE/Chem/CBC/UA Results: ALT 309, ALP 1987, GGT 13 (significant change from BW on 2/22) RADS: large mid-abdominal soft tissue opacity (spleen versus other)

**SPECIES**

Canine

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

**BREED**

Boston Terrier

The urinary bladder is adequately filled. The wall is smooth and regular. No abnormalities are present with the trigone or proximal urethra, and there is no evidence of sediment, cystoliths, polyps or a mass.

**SEX**

Spayed Female

The left kidney is within normal limits in size for the patient's weight (4.83 cm). The cortex is thickened and hyperechoic with loss of definition of the corticomedullary junction. Mineralizations and small nephroliths are seen without pyelectasia.

**AGE**

11.5 Years

The right kidney is within normal limits in size for the patient's weight (4.47 cm). The cortex is thickened and hyperechoic with loss of the corticomedullary definition. Mineralizations and small nephroliths are seen without pyelectasia. A trivial amount of effusion is observed surrounding the right kidney.

**WEIGHT**

22 Pounds

**Adrenal Glands**

The left adrenal gland measures 0.60 cm at the cranial pole and 0.68 cm at the caudal pole. A nodule is observed at the caudal pole. Its appearance is suggestive of an adenoma. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

**INTERPRETED BY**

Lisa Carioto, DVM,  
DVSc, Diplomate  
ACVIM

The right adrenal gland measures 0.60 cm at the cranial pole, which is more rounded. A possible nodule cannot be excluded. The caudal pole measures 0.56 cm. Length measures 2.45 cm. No abnormalities are noted with the gland's shape, overall architecture, echogenicity or echotexture. The phrenico-abdominal vein and surrounding vasculature and mesentery are unremarkable.

**IMAGING PERFORMED BY**

Dr. Ebersole

**Spleen**

Marked splenomegaly is present with a severely hypoechoic, lacey, honeycomb echotexture, scalloped edges, and multiple hypoechoic nodules scattered throughout the parenchyma. Examples of nodules include 1.31 cm x 1.49 cm and 1.94 cm x 1.71 cm. The spleen appears folded on itself. The surrounding mesentery is severely hyperechoic.

**HOSPITAL NAME**

Scanvet

**Liver**

The liver is moderately to severely heterogeneous. Subjectively, it appears enlarged and it is diffusely hypoechoic, with multiple hypoechoic nodules of variable size. In many ways it has a very similar appearance to the spleen in terms of its lacey appearance. A trivial amount of echogenic material is present within the gallbladder, some of which appears nodular and inspissated. The latter is considered clinically insignificant.

**REFERRING VET**

Dr. Fortin

In one of the views, a mass effect measuring 5.8 cm in diameter x 3.9 cm in length is observed. It is severely hypoechoic and may be a mass originating from one of the liver lobes, or it could be a lymph node, in which its original architecture is completely obliterated.

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**Gastrointestinal**

The location of the stomach is displaced caudally (in an abnormal position) due to the size of both the spleen and liver. However, no obvious abnormalities are observed with the mural detail of the wall layering.

**DATE**

3/15/22



**PATIENT**

Roo Pease

Of what is observed with the remainder of the intestinal tract, no abnormalities are observed, other than what is described with the hilum of the mesentery (see below).

**Pancreas**

**SPECIES**

Canine

The pancreas was not visualized.

**Other**

**BREED**

Boston Terrier

In the images marked "left lateral abdomen", a tear drop shaped mass effect, measuring 2.2 cm in length x 1.3 cm in diameter, is observed. It is that is hypo to anechoic and is consistent with a lymph node with a complete loss of its normal architecture. A blood vessel is nourishing the lymph node.

**SEX**

Spayed Female

At the hilum of the mesentery, multiple enlarged, hypoechoic lymph nodes are observed. They too have a total loss of their normal architecture. Within the vena cava is an ill-defined echogenic structure, which may be a thrombus or metastasis. The latter structure measures 1.8 cm x 1.4 cm. In that same region, there are one or two loops of bowel that measure within the normal reference range, but have a complete loss of the normal definition of mural detail and also have abnormal peristalsis.

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11.5 Years

A trivial amount of anechoic effusion is visualized surrounding the right kidney.

**Heart**

**WEIGHT**

22 Pounds

A brief video clip of the heart was submitted. No pericardial or pleural effusion is identified. Hypovolemia is suspected based on the appearance of the left ventricle.

**ULTRASONOGRAPHIC FINDINGS**

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ACVIM

- Unfortunately, Roo's ultrasound findings are highly suggestive of neoplasia, such as lymphoma, histiocytic sarcoma, or mast cell tumor. As previously mentioned, the spleen, liver, portions of the intestinal tract, lymphatic system, including those surrounding the mesenteric hilum appear to be involved. Furthermore, a possible thrombus or metastatic lesion is present within the vena cava.

**IMAGING PERFORMED BY**

Dr. Ebersole

- The renal changes may be due to glomerulonephritis or interstitial nephritis, however, infiltrative disease cannot be excluded. Age related degenerative changes may also be playing a role.
- Roo also appears hypovolemic based on the appearance of her heart.

**HOSPITAL NAME**

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**REFERRING VET**

Dr. Fortin

Fine needle aspirates of multiple organs may be considered. However, an intravenous catheter should be placed in case she decompensates following the procedure. She should also be pre-treated with dexamethasone and IV, and diphenhydramine IM. She should, ideally, be rehydrated with intravenous fluids prior to the procedure.

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A coagulation profile is also strongly recommended. Supportive therapy, including analgesia and maropitant is also recommended, in addition to steroids if further diagnostics are not pursued but empirical therapy is attempted.

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I am sorry I could not be the bearer of better news for Roo.



**PATIENT**

Roo Pease

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**BREED**

Boston Terrier

**SEX**

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**AGE**

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**IMAGING PERFORMED BY**

Dr. Ebersole

**HOSPITAL NAME**

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**REFERRING VET**

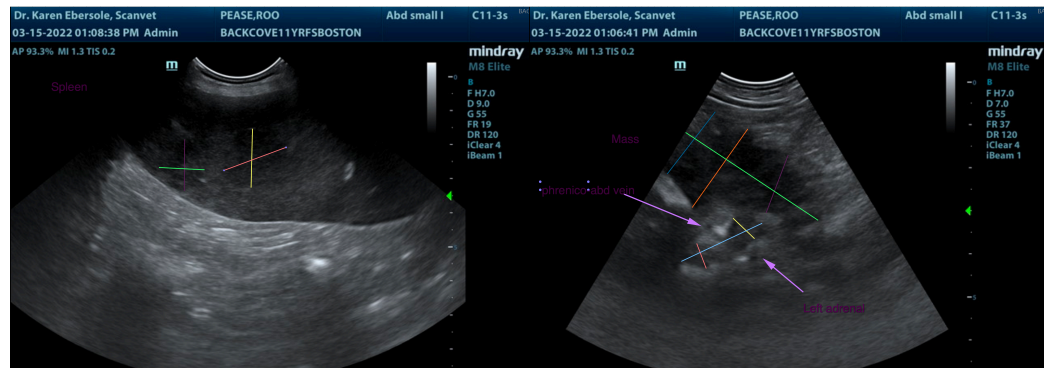
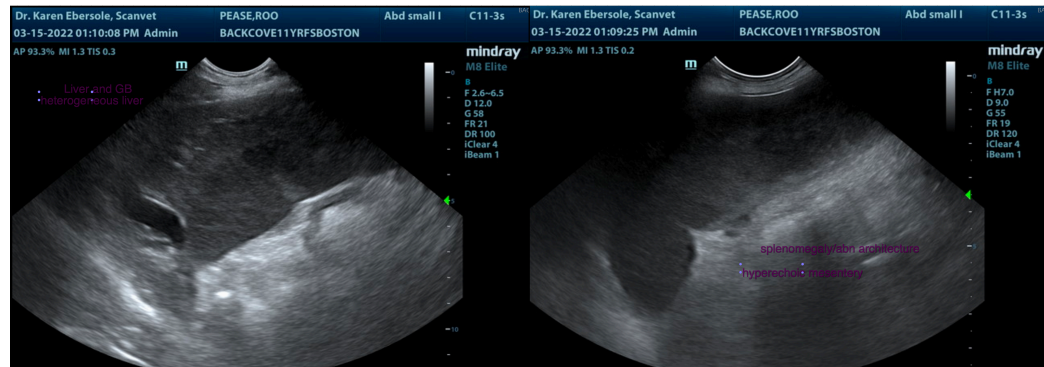
Dr. Fortin

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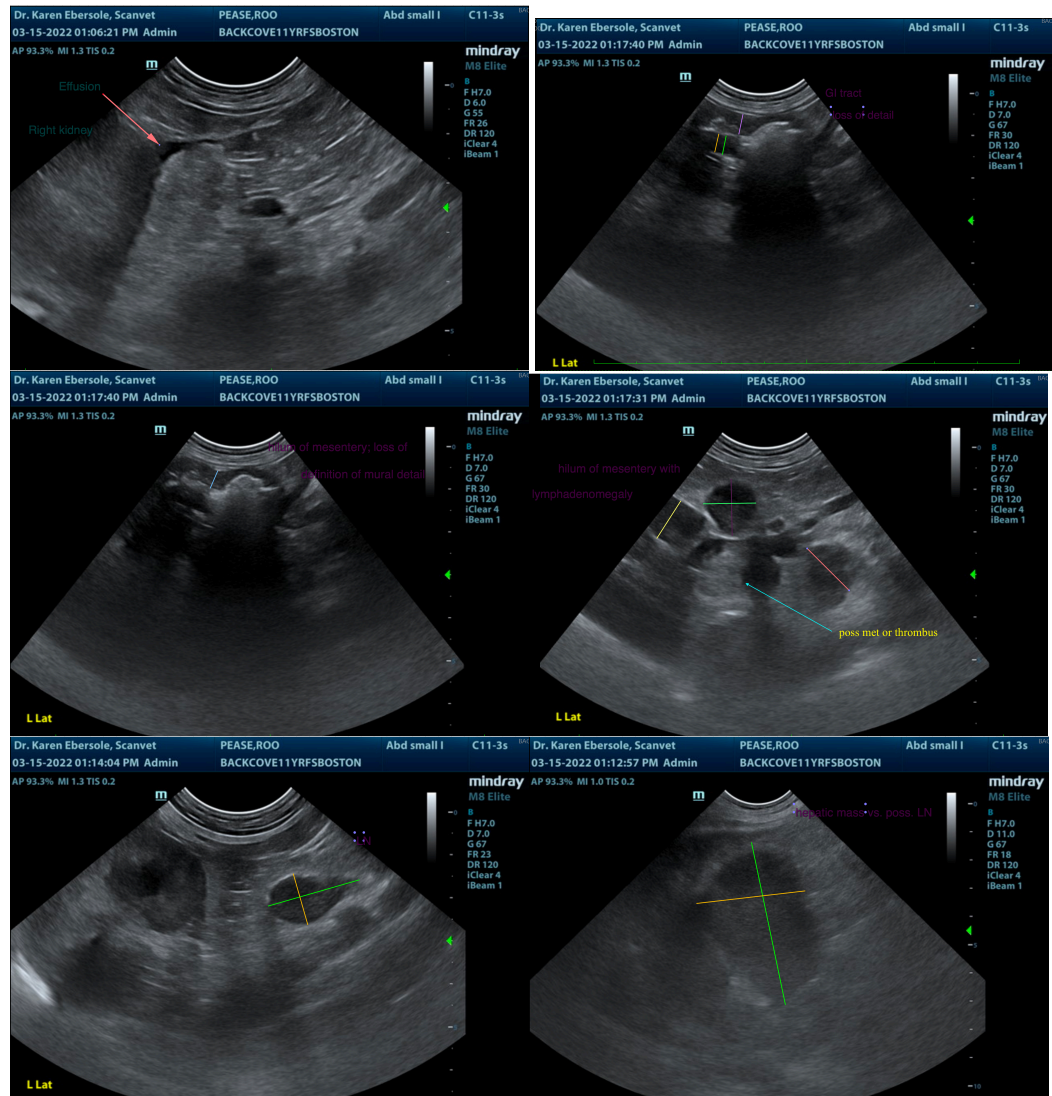
Dr. Fortin

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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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