**DATE**

7/12/22

PRESENTING CLINICAL SIGNS

Previously seen by rDVM (possibly 6/29/22) for distended abdomen, diagnosed w/elevated liver values and started on Denamarin (gets every morning.) Presented to Urgent Vet Care 2 days ago (7/9/22) for abdomen appearing more distended/concern for bloat. Appetite normal at that point. TFAST-no PCE or Pleural effusion AFAST - moderate ascites (clear fluid); fluid wave No peripheral lymphadenopathy appreciated. Current Medications: Buprenorphine, Cerenia, Ondansetron.

Lab Results: See attached.

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Requested by DVM.

Imaging Performed By: Andi Parkinson, RDMS.

PATIENT

Maggie Everd

SPECIES

Canine

BREED

American Pit Bull

SEX

Spayed female

AGE

3/15/21

WEIGHT

43.3 lbs

INTERPRETED BY

Lisa Carioto, DVM,
DVSc, Diplomate
ACVIM

HOSPITAL NAME

Animal Emergency
Hospital

REFERRING VET

Dr. Martinoli

INVOICE

31565

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

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

Kidneys

The **left** kidney is decreased in size for a dog of Maggie's stature, measuring 4.83 cm. The capsule is smooth. A mild loss of the normal definition of the cortico-medullary junction is present. There are no signs of nephroliths or pyelectasia. Blood flow is within normal limits. The capsule appears incomplete at the level of the pelvis when evaluated in a transverse/oblique view. A large amount of fluid with echogenic material is also observed in the region of the left kidney. The surrounding mesentery is hyperechoic, which is attributed to the marked amount of ascites.

The **right** kidney measures 7.55 cm. Its overall architecture, including the definition of the cortico-medullary junction, is preserved. There are no signs of nephroliths or pyelectasia. The surrounding mesentery is not hyperechoic.

Aortic bifurcation/trifurcation No abnormalities observed.

Adrenal Glands

The **left** adrenal gland measures 0.66 cm at the cranial pole, 0.59 cm at the caudal pole and 2.63 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.

The **right** adrenal gland is not visualized.

Spleen

The spleen is within normal limits in architecture, echotexture, and echogenicity, and the capsule is smooth. However, it appears decreased in size for a dog of Maggie's stature. No abnormalities are observed with its vasculature, i.e. congestion and thrombi are not identified.

Liver

Microhepatica with rounded, scalloped and irregular margins. The parenchyma is heterogeneous with multiple hypoechoic nodules scattered haphazardly throughout.

The **gallbladder** is not visualized.

Gastrointestinal

Gas, fluid and ingesta are present within the lumen of the stomach. Edema of the layers of the gastric wall is noted.

Diffuse edema of the GI tract is present, accentuating the definition of the wall layers. The jejunum is mildly thickened as a result (0.56 cm).

Pancreas

The pancreas is enlarged and hypoechoic. The acini are well delineated due to severe oedema.

Other

Lymph nodes No abnormalities are observed

Abdominal effusion

A marked amount of ascites is present, i.e., Maggie experienced dyspnea while lying in lateral recumbency. Echogenic free floating material noted amongst the effusion, suggestive of proteinaceous or cellular material. Fibrin also visualized floating in the ascites.

Mesentery

The mesentery is diffusely hyperechoic, which is attributed to the marked amount of ascites.

Heart

No abnormalities are observed with chamber size or contractility and valve leaflets appear smooth and regular. A shunt is not evident. There is no evidence of pleural or pericardial effusion, or pulmonary edema.

ULTRASONOGRAPHIC FINDINGS

- **Liver:** Signs are consistent with cirrhosis and severe portal hypertension. The cause of these findings are not evident. Abdominocentesis and re-performing the ultrasound would be required to assess the hepatic and abdominal vasculature to exclude an arterio-venous fistula or shunt. An extrahepatic portosystemic shunt (PSS) is considered less likely as there are no other signs of a shunt, i.e. the kidneys are not enlarged and there are no signs of cystoliths. Furthermore, the ALT enzyme activity should not be as elevated with a PSS. Ductal plate atresia or other congenital hepatobiliary disease is suspected.
- **Ascites:** Ascites is attributed to severe portal hypertension.
- **Kidneys:** A parapelvic cyst affecting the left kidney is noted. Mild dysplasia of the left kidney cannot be excluded based on the size and appearance of the kidney compared to the right.
- **Spleen:** Hypovolemia is a possible explanation for the size of the spleen.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Further diagnostics to obtain a definitive diagnosis for Maggie's condition include a CT and angiogram. Unfortunately, there is unlikely to be a cure. However, treatment to improve her quality of life and decrease the rapidity of accumulation of ascites may be pursued.

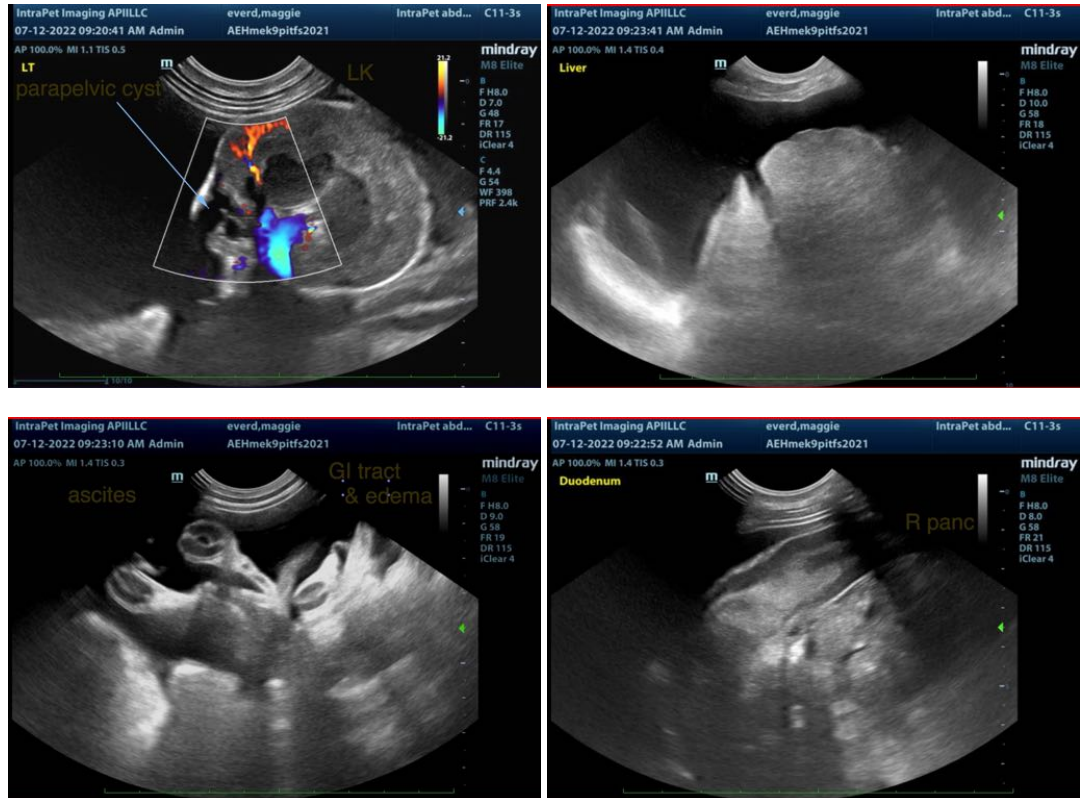
Abdominocentesis may be performed to ensure Maggie's comfort (+/- cytology to confirm transudate or modified transudate). Do not remove the fluid too quickly.

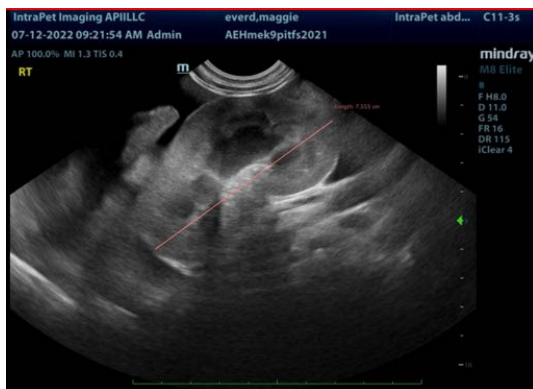
Centesis of the renal cyst and culture of the fluid to exclude an infection. A urine culture would also be ideal.

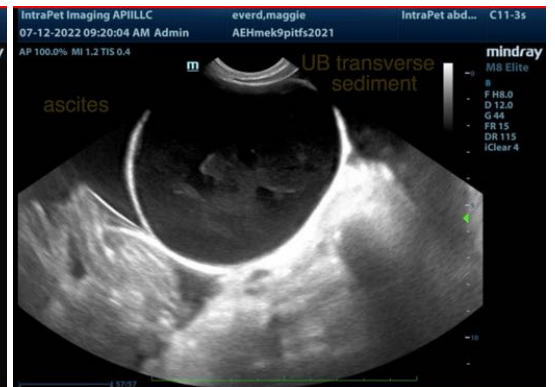
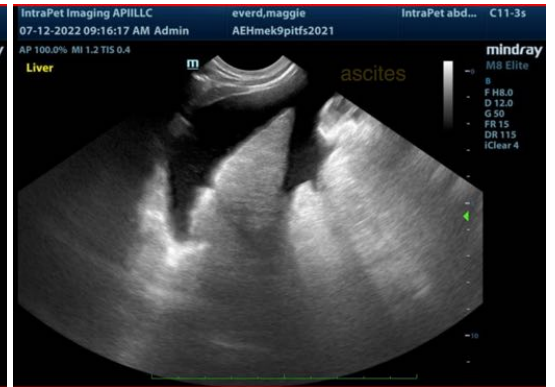
Spironolactone (1-2 mg/kg PO every 12 hours), vitamin E, zinc, glutathione supplementation, as well as silybin (milk thistle) are suggested. Lactulose may be required in the future to prevent signs of hepatic encephalopathy.

Royal Canin hepatic diet is suggested to decrease copper in Maggie's diet. She may require additional protein to prevent sarcopenia and cachexia. Vegetable or dairy protein is recommended.

Measuring the abdominal circumference at home will help determine if and when Maggie will require additional abdominocenteses.







The information and recommendations provided are based on the images presented by the referring veterinarian. 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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