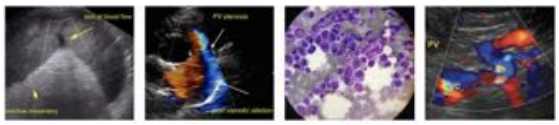


PATIENT

Dino Del Duca

SPECIES

Canine

BREED

Miniature Pinscher

SEX

Male, neutered

AGE

5/4/2011

WEIGHT

12.6 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

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

HOSPITAL NAME

Southside AH

REFERRING VET

Dr. Forcier

INVOICE

13463

DATE

6/8/22

PRESENTING CLINICAL SIGNS

Recent history of inappetence and severe liver enzyme elevations (ALP > 2000), GGT – 35; Tbili – 8.6

Prior hx of cystotomy/stone removal (calcium oxalates) and liver bx (acute hepatopathy) – May 2020; liver biopsy revealed cholestasis; also, hx of anal gland adenocarcinoma

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

*The majority of the scan was performed with the patient standing due to intermittent cyanosis when the patient was on his side.

Urinary System

The urinary bladder is distended. The wall is normal in thickness with a smooth mucosal surface. A small amount of gravity-dependent echogenic debris +/- tiny calculi is observed within the lumen. The region of the trigone and the visible portion of the proximal urethra are normal.

The prostate is not definitively visualized due to its pelvic location.

The left kidney is normal size (4.37 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with moderate loss of corticomedullary distinction. Several non-obstructive nephroliths are visualized. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal size (5.05 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with moderate loss of corticomedullary distinction. Several non-obstructive nephroliths are visualized. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is enlarged (0.72 cm at cranial pole) (0.99 cm at caudal pole) (2.35 cm in length) with an irregular shape. The parenchyma is mildly heterogeneous with loss of glandular detail. The phrenicoabdominal vein and surrounding vasculature are normal.

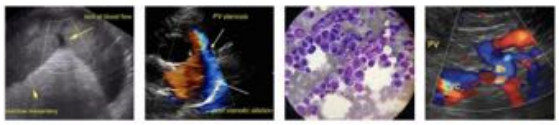
The right adrenal gland is enlarged (1.18 cm at cranial pole) (0.98 cm at caudal pole) (1.90 cm in length) with an irregular shape. The parenchyma is mildly heterogeneous with loss of glandular detail. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen

The spleen is normal in size (1.05 cm in width at the level of the hilus) with a normal capsular contour. The parenchyma is hyperechoic and a light micronodular pattern is observed throughout the parenchyma. No focal lesions are observed. Splenic vasculature is normal.

Liver

The liver is enlarged with irregular peripheral contours. The parenchyma is hypoechoic relative to the spleen and diffusely mottled in appearance. A 2.90 cm cavitated heterogeneous mass is observed on the right side. In addition, a 3.30 x 2.62 cm solid hypoechoic to slightly heterogeneous mass is also observed



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on the right side, adjacent to the cavitated mass. Vascular and biliary tracts are of normal volume with no evidence of congestion. The gall bladder lumen is distended. The wall is normal in thickness. A moderate amount of suspended echogenic debris is observed within the lumen. The cystic and common bile ducts are severely dilated and tortuous. The common bile duct measures up to 1.48 cm and can be followed to the level of the duodenal papilla, which is thickened measuring 0.66 cm in width. A small amount of echogenic debris is observed within the common bile duct lumen. There is no obvious evidence of an intraluminal obstruction within the common bile duct. However, a small unseen intraluminal obstruction or an extraluminal obstruction are possible.

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. No obstructive disease is noted.

Pancreas

The pancreas is diffusely enlarged, particularly the left limb, with irregular peripheral contours. The parenchyma is hypoechoic relative to surrounding omental fat and subtly mottled in appearance. No distinct focal lesions are observed. The pancreatic duct is not overtly dilated.

Free Abdomen

There is no obvious evidence of free fluid. A few prominent lymph nodes are observed in the cranial abdomen, the largest measuring 1.42 cm in length. The nodes are normal in shape and echogenicity. Surrounding mesentery is hyperechoic.

Other

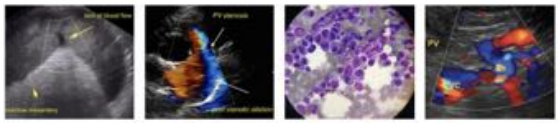
A brief echocardiogram reveals no evidence of pericardial effusion or obvious right atrial/auricular mass.

ULTRASONOGRAPHIC FINDINGS

Primary Findings:

- Right hepatic masses, one of which is solid and one of which is cavitated. Neoplasia is suspected for both lesions. However, benign lesions cannot be completely excluded. The hepatic parenchymal changes are non-specific and could be secondary to an inflammatory hepatopathy, infiltrative neoplasia, hepatotoxicosis (i.e., copper) +/- concurrent benign, age-related change.
- The severe common bile duct dilation could be consistent with a small intraluminal obstruction (i.e., stone, tumor, mucous plug), extraluminal obstruction (i.e., due to pancreatic pathology), or may be secondary to chronic choledocholiths.
- The pancreatic changes could be consistent with infiltrative neoplasia or moderate to severe chronic pancreatitis.

Secondary Findings:



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- The bilateral adrenomegaly is most consistent with hyperplastic change. However, emerging tumors cannot be completely excluded.
- Bilateral chronic renal changes with non-obstructive nephrolithiasis.
- Urinary bladder sand +/- tiny calculi.
- The prominent abdominal lymph nodes are most consistent with reactive lymphadenitis or lymphoid hyperplasia. Neoplastic infiltration is considered less likely.
- The splenic parenchymal changes are non-specific and could be consistent with a benign process (i.e., extramedullary hematopoiesis, splenitis, lymphoid hyperplasia or similar). Infiltrative neoplasia is also possible but considered less likely.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Three-view thoracic radiographs are recommended to assess for pulmonary metastases.
- If an aggressive approach is desired, consider an abdominal exploratory for mass removals or debulking and assessment of bile duct patency as well as a pancreatic biopsy. An abdominal CT scan would be useful in pre-surgical planning. If surgery is pursued, referral to a board-certified surgeon is recommended due to the potential for perioperative complications.
- If a more conservative approach is pursued, broad spectrum antibiotic therapy (i.e., fluoroquinolone, amoxicillin-clavulanic acid) along with symptomatic care is recommended. However, the total bilirubin should be monitored daily. If it continues to rise, an exploratory surgery should be reconsidered due to the possibility of a bile duct obstruction.

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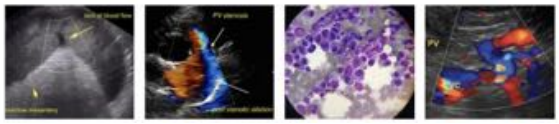

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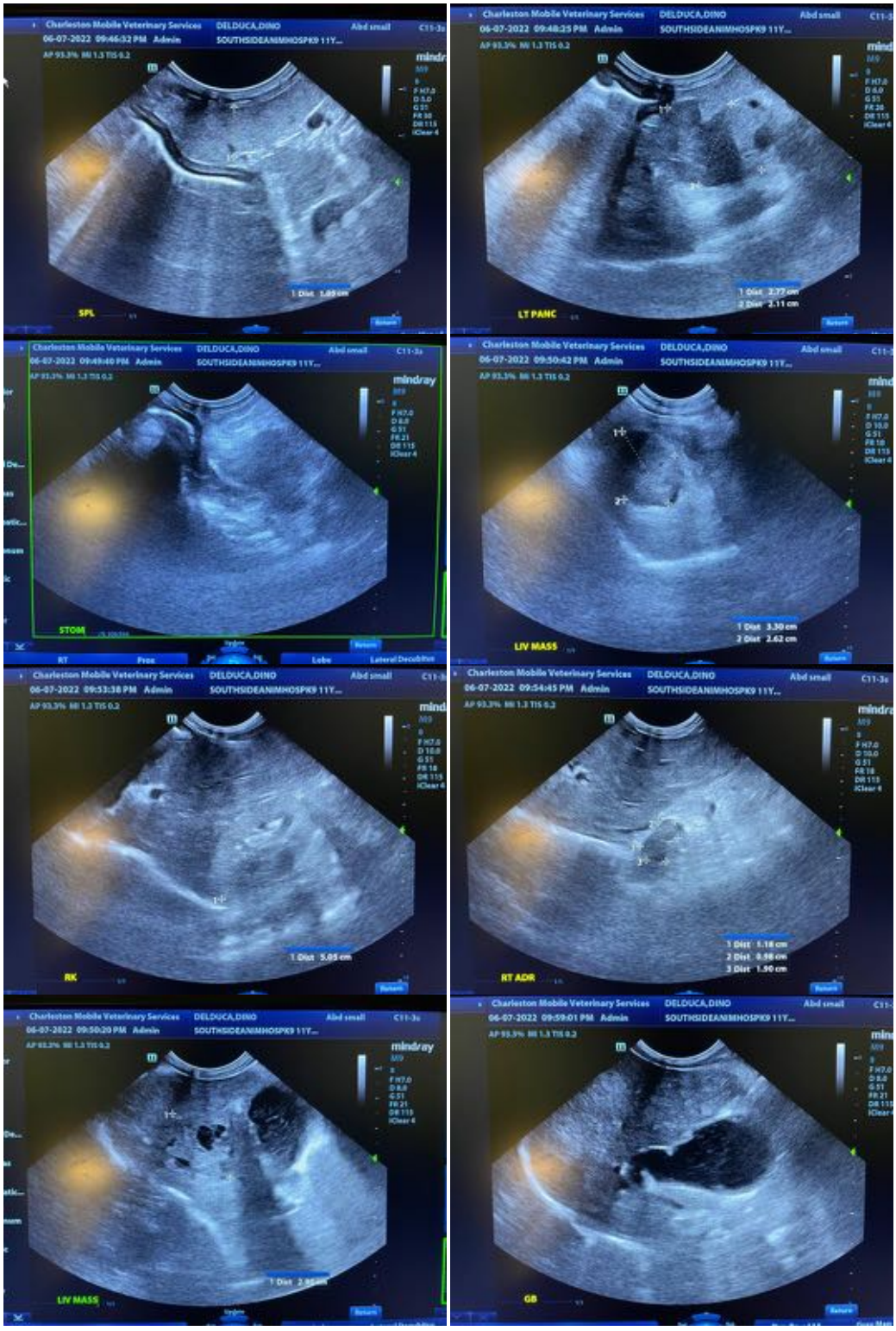

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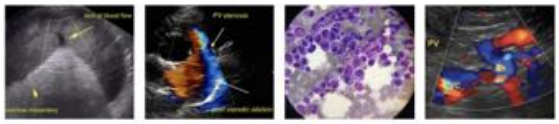

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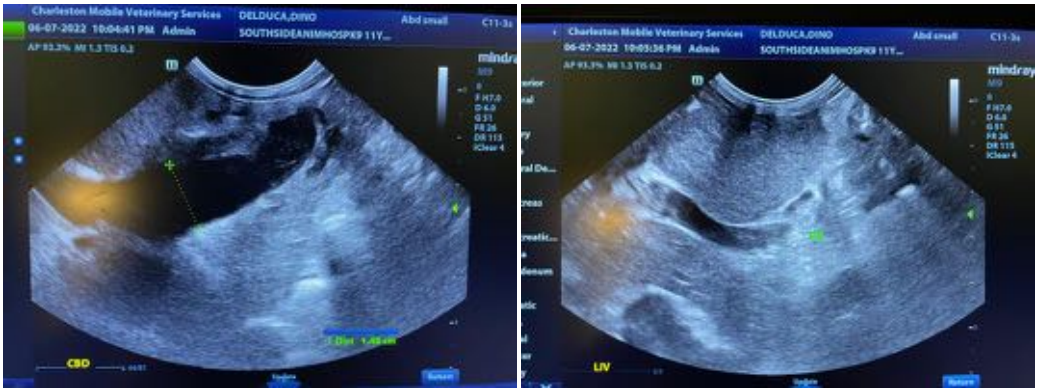

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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