



PATIENT PRESENTING CLINICAL SIGNS

Brooklyn Brown Elevated liver enzymes, enlarged liver, PUPD, intermittent vomiting

SPECIES Brooklyn is a 4 yo FS Chihuahua who presents to the ER for an abdominal US from rdvm. O says Isat week she noticed pt had an increase in thirst/urination and foul smelling urine. She took her to rdvm thinking it was a UTI like she had about a month ago. UA was normal at rdvm however Monday she began vomiting, she was unable to keep anything down and seemed lethargic. Tuesday AM she took her back to rdvm where they did labs and rads- found enlarged liver and elevated liver enzymes. Rdvm dispensed Denamarin which she has not started and said she needed to be seen with IM within 3 days for abd U/S. O says she has been acting her normal self, e/d normally, no c/s/v/d since Monday. No previous medical issues or meds

BREED Chihuahua

SEX

Female, spayed

AGE

4 Yrs.

WEIGHT

3 kg.

INTERPRETED BY

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

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is mildly to moderately distended. The wall, particularly in the region of the apex, is mildly thickened (up to 0.36 cm) with an irregular mucosal surface. A small amount of suspended echogenic debris is observed within the lumen. No cystic calculi are observed. The region of the trigone and the proximal urethra, visible to a depth of 2 cm, are normal.

The left kidney is normal size (4.50 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal size (5.23 cm in length); normal shape and architecture with smooth peripheral margins. There is a normal 1:3 cortex to medulla ratio with normal corticomedullary distinction. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

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Adrenal Glands

The left adrenal gland is normal size (0.37 cm at cranial pole) (0.48 cm at caudal pole); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

The right adrenal gland is normal size (0.70 cm at cranial pole) (0.42 cm at caudal pole) (1.51 cm in length); normal shape; homogenous parenchyma. The glandular echogenicity and detail are unremarkable. Capsule, cortex, and medullary definition are normal. The phrenicoabdominal vein and surrounding vasculature are normal.

HOSPITAL NAME

Blue Pearl

REFERRING VET

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Spleen

The spleen is normal in size (1.24 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. No focal lesions are observed. Splenic vasculature is normal.

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Liver

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The liver is subjectively normal in size with normal contours and structure. There is appropriate echogenicity and echotexture. No overt structural evidence of inflammatory, infiltrative or regenerative pathology is evident. Vascular and biliary tracts are of normal volume with no evidence of congestion. No pathological hepatic lymphadenopathy observed. The gall bladder lumen is moderately distended. The wall is thin and smooth. Luminal contents are anechoic. The cystic and common bile ducts are normal/not seen.

Gastrointestinal

The stomach and intestine are free of stasis and exhibit normal peristaltic activity. The gastric lumen is mildly distended with ingesta. 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 region of the pancreas is isoechoic relative to surrounding omental fat. No obvious parenchymal abnormalities are observed. There is no evidence of regional inflammation or effusion.

Free Abdomen

The peritoneal cavity is normal. There is no evidence of inflammation or effusion. The abdominal lymph nodes are normal/not visible.

Other

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

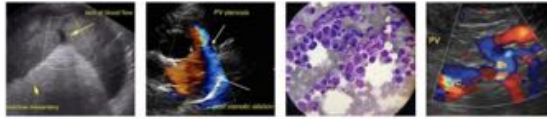
ULTRASONOGRAPHIC FINDINGS

- Urinary bladder wall changes consistent with cystitis.

*An obvious cause for the patient's elevated ALP is not identified in this study. Considerations include cholestatic liver disease, inflammatory hepatopathy (less likely due to normal ALT), Leptospirosis, hepatotoxicosis (i.e., Sago Palm, xylitol, fertilizer/herbicide), other.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Given the history of lower urinary tract signs, a urine culture and sensitivity is recommended.
- Regarding the elevated ALP, consider further testing for Leptospirosis (i.e., urine/blood PCR, serology) and empirical treatment for bacterial cholangiohepatitis (i.e., amoxicillin-clavulanic acid +/- metronidazole, Denamarin). If Leptospirosis testing is negative and the liver values do not improve within 5-7 days of initiating therapy, hepatic tissue sampling (i.e., fine needle aspirate or surgical biopsy) may be warranted. Surgical biopsies are preferred in that they are more likely to provide a definitive diagnosis. If biopsies are pursued, aerobic and anaerobic bile cultures and additional hepatic tissue samples for potential copper quantitation are recommended.



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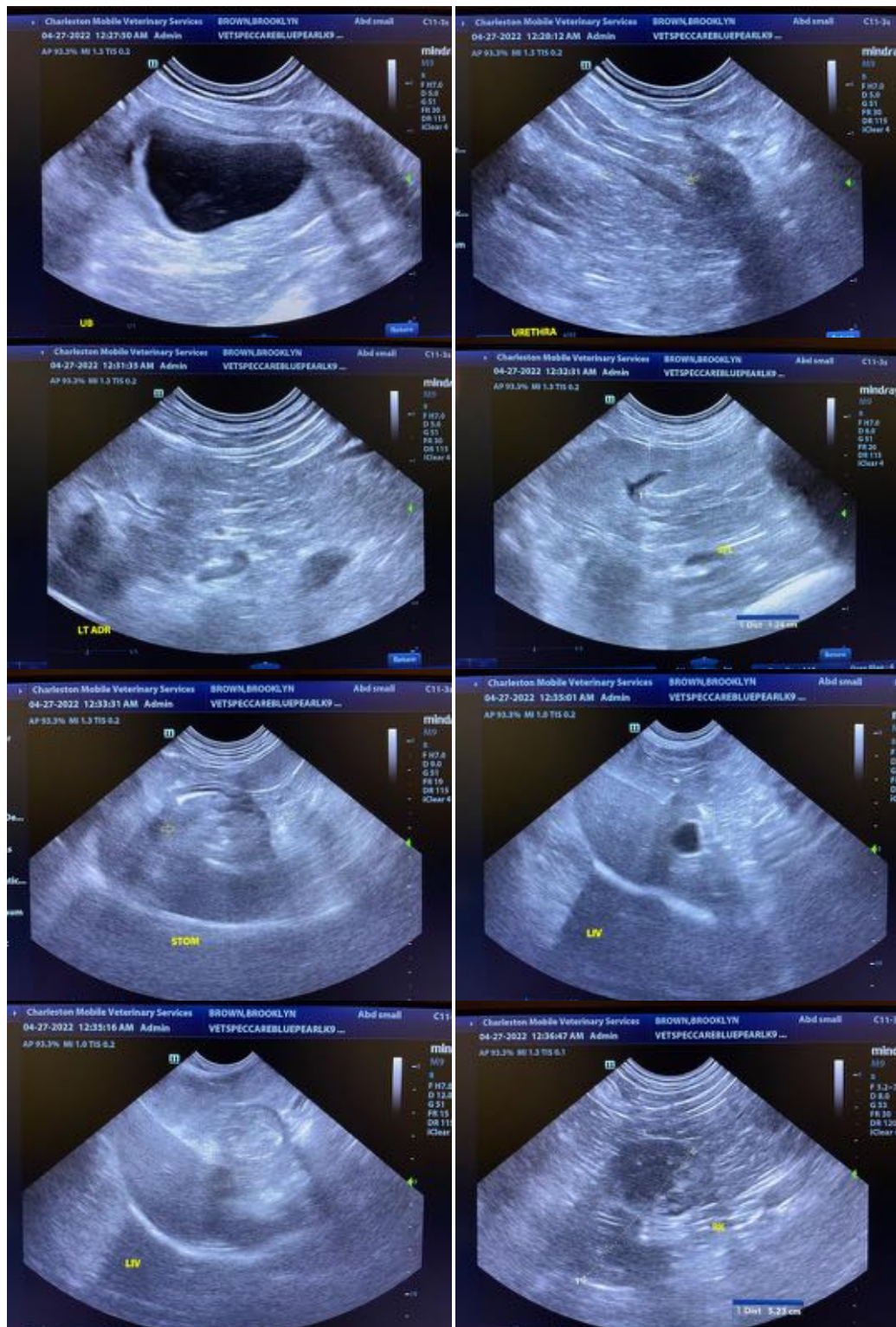
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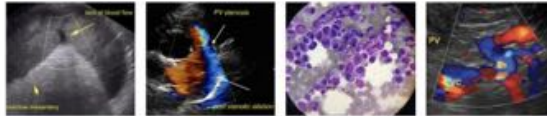
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- If a more conservative approach is desired, consider repeating liver values in 2-3 days. If not improving, the above diagnostics should be reconsidered.





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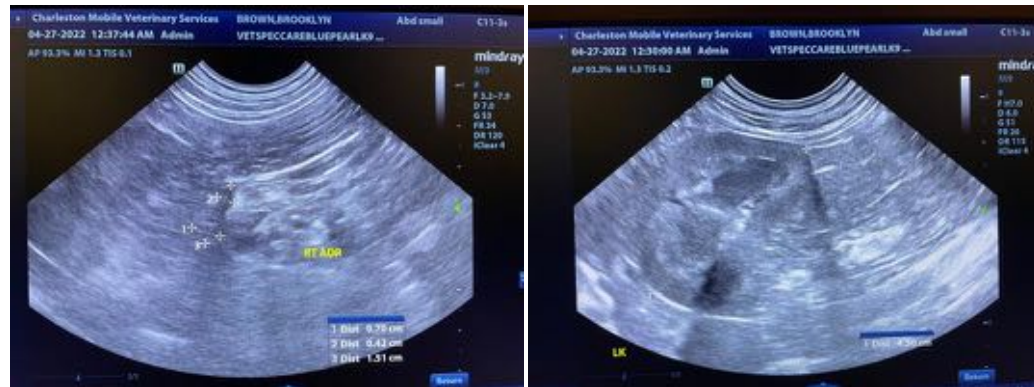
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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