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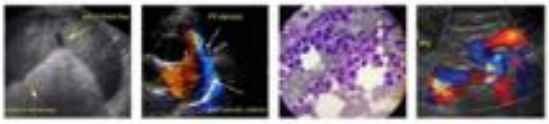

IMAGING PERFORMED BY
pawsonography@gmail.com 530-708-8340

PATIENT

Cosmo Miskulin

SPECIES

Canine

BREED

Bichon Frise

SEX

Neutered Male

AGE

12 years

WEIGHT

19.2 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Desert Hills AH

REFERRING VET

Dr Michelle Caldwell

INVOICE

12053

DATE

1.16.23

PRESENTING CLINICAL SIGNS

History: Patient presenting for abdominal ultrasound today for further evaluation of elevated liver values, possible Cushing's disease, as well as progressive, now grade IV/VI systolic heart murmur with PMI L apex. No auscultable arrhythmia noted.

Abnormal PE/Chem/CBC/UA Results: Chem panel: ALB elevated at 4.5 (2.7-4.4). ALT increased at 231 (12-118). ALP significantly elevated compared to previous values at SWVH (see comparison below) at 2543 (5-131), GGT elevated at 14 (1- 12). BUN elevated at 52 (6-31). BUN/creat ratio elevated at 47 (4-27). Creat WNL at 1.1 (0.5-1.6). Rest of chem panel WNL. T4 WNL at 2.3. CBC: Platelets elevated at 572 (170-400), monocytes elevated at 918 (0-840). Rest WNL. UA: USG 1.026. 2+ proteinuria with UPC ratio elevated at 0.7 (< 0.5 WNL). 4-10 squamous epithelia noted likely due to cysto. Rest WNL. HWT-NEG. Fecal O/P NEG. P NEG for Cushing's 2/2022.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder wall is normal in thickness and the mucosal surface is smooth. The bladder lumen is moderately distended with anechoic urine. No masses, inflammatory changes or calculi are observed. The region of the trigone is normal. A 0.16 cm uterolith is observed in the proximal urethra. The urethral lumen is not overtly dilated.

The prostate is normal in size (0.67 cm in width) and shape. Parenchyma is homogenous. The prostatic urethra appears normal without evidence of dilation or obstruction.
The left kidney is normal in size (5.11 cm in length) with a normal shape and smooth peripheral contours. The cortex is mildly thickened and isoechoic relative to the spleen. Numerous varying-sized cortical cysts are present. Pinpoint hyperechoic foci are also observed within the cortex. There is moderate loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal.

The right kidney is normal in size (5.20 cm in length) with a normal shape and smooth peripheral contours. The cortex is mildly thickened and isoechoic relative to the spleen. Numerous varying-sized cortical cysts are present. Pinpoint hyperechoic foci are also observed within the cortex. There is moderate loss of corticomedullary distinction. Hyperechoic shadowing diverticular foci are visualized. There is no evidence of pyelectasia, infarcts or hydroureter.

Adrenal Glands

The left adrenal gland is enlarged (0.53 cm at cranial pole) (0.72 cm at caudal pole) with a normal shape and 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 enlarged (0.96 cm at cranial pole) (0.65 cm at caudal pole) (2.07 cm in length) with a slightly irregular shape. The parenchyma is mildly heterogenous with some loss of glandular detail. The phrenicoabdominal vein and surrounding vasculature are normal.

Spleen

The spleen is normal in size (1.35 cm in width at the level of the hilus) with a normal capsular contour. There is appropriate echogenicity and echotexture. Several ill-defined hyperechoic nodules/areas are observed throughout the organ, mainly adjacent to the vasculature. Splenic vasculature is normal.

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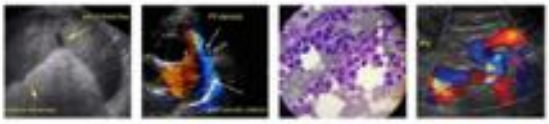

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Liver

The liver is subjectively prominent in size with swollen curvilinear peripheral contours. The parenchyma is isoechoic relative to the spleen and exhibits mild heterogeneity. A few small, ill-defined hypoechoic areas are observed throughout the organ. No distinct focal lesions are observed. Hepatic vasculature and biliary tracts are of normal volume with no evidence of congestion.

The gall bladder lumen is moderately distended. The wall is thin and smooth. A small to moderate amount of aggregated, echogenic, partially dependent debris/sludge is observed within the lumen. 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 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. There is no evidence of an obstructive pattern.

Pancreas

The right limb of the pancreas is normal in size with normal curvilinear peripheral contours. The parenchyma is largely isoechoic relative to surrounding omental fat and slightly mottled in appearance. The pancreatic duct is visible but not overtly dilated. There is no evidence of peripancreatic 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 visualization of the heart reveals no obvious evidence of pericardial effusion.

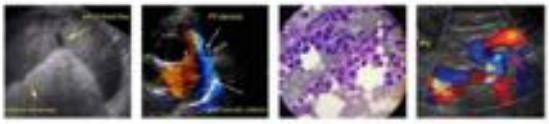
ULTRASONOGRAPHIC FINDINGS

Primary Findings

- The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, regenerative nodular hyperplasia, and/or age-related remodeling. Inflammatory and infiltrative disease are considered less likely.
- Gall bladder debris/sludge – non-mucocele
- Mild bilateral adrenomegaly
- Proximal ureterolith (only partially obstructive)

Secondary Findings

- Chronic age-related renal changes with cortical cysts and dystrophic mineralization
- The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.



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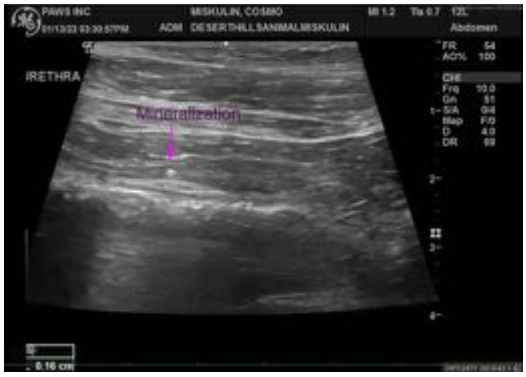
- The hyperechoic splenic nodules/areas are most consistent with benign myelolipomas with a lower possibility of emerging neoplasia (i.e., mast cell disease).

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- If the patient is exhibiting clinical signs of Cushing's disease, further testing (i.e., low-dose dexamethasone suppression test, ACTH stimulation test) should be considered.
- Given the proteinuria, consider initiation of an angiotensin receptor blocker. Alternatively, consider repeating a UPC in 4-6 weeks. If it is still elevated at that time, therapy can be reconsidered.
- Serial monitoring (i.e.; every 3-4 months) of the patient's liver values is recommended. If values continue to increase, a repeat abdomen ultrasound +/- a more advanced hepatic work-up (i.e., tissue sampling) may be warranted.



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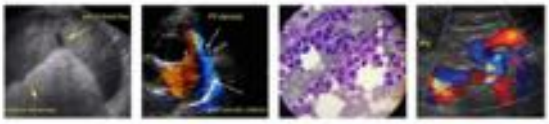

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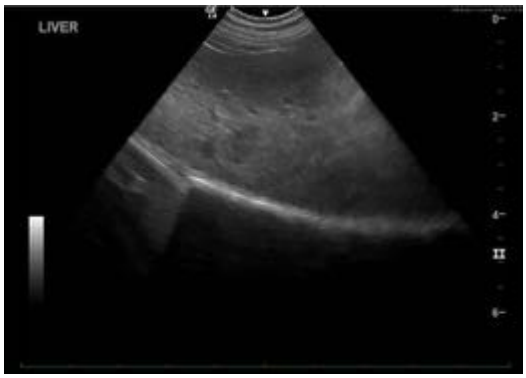

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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, MPH, DVM, Diplomate DACVIM (Small Animal Internal Medicine)
info@SonoPath.com