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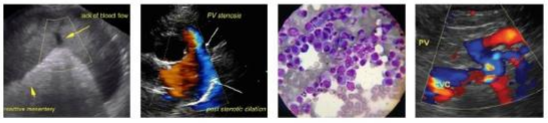


IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Desmond Susuki

SPECIES

Canine

BREED

Aus Shepherd

SEX

Neutered Male

AGE

12 Years

WEIGHT

36 Pounds

INTERPRETED BY

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small Animal Internal Medicine)

IMAGING PERFORMED BY

Loetitia Saint-Jacques, RVT

HOSPITAL NAME

Incline VH

REFERRING VET

Dr. Kris Moger

INVOICE

16882

DATE

8/16/22

PRESENTING CLINICAL SIGNS

History: Stable 2 cm firm, subcutaneous growth on the left dorsal hock -r/o neoplasia or arthritis- Blood panel as is on NSAIDs. revealed abnormalities

Abnormal PE/Chem/CBC/UA Results: CA 12.9 ALP 1048 ALT 199

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The bladder wall, trigone, ureteral papillae and visible urethra (to a depth of 2.0 cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The prostate is normal in size (1.33 cm) and shape for this neutered male dog. The parenchyma is homogenous, and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

The left kidney has a normal shape and size (6.53 cm). Overall echogenicity is slightly hyperechoic with decreased corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (5.1 cm). Overall echogenicity is slightly hyperechoic with decreased corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is large in size measuring 0.7 cm at the cranial pole and 1.13 cm at the caudal pole x 3.0 cm in length. It is observed in its normal position cranial to the left renal artery. It is atypical in appearance, in that the caudal pole appears rounded and bulbous, most consistent with a caudal adrenal nodule. There is no evidence of vascular invasion visualized.

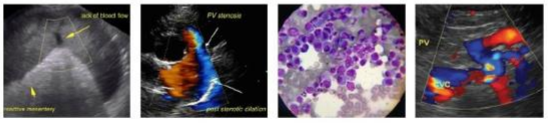
The right adrenal gland is normal/plump in size measuring 1.09 cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

Spleen

The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. There is a small hyperechoic nodule visualized within the parenchyma, measuring 0.33 cm.

Liver

The liver is subjectively large in size, and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a small cystic lesion visualized in the left side of the liver, measuring 0.94 cm. Additionally, there is a small hypoechoic nodule/lesion visualized in the right side, measuring 0.59 cm. The caudal aspect of the left liver lobe appears rounded but



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isoechoic to surrounding tissue and measures 3.96 cm x 3.58 cm. This could be consistent with a mass effect or atypical rounded liver lobe.

The gall bladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. The cystic and common bile ducts are normal/not visible.

Gastrointestinal

The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis:mucosa layer ratio. The duodenum measured as normal (between 0.3-0.5 cm in wall thickness) and the jejunum measured as normal (between 0.2-0.47 cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

Pancreas

The pancreas is normal and isoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

The right and left sublumbar lymph nodes appear normal in size. The left measures 4.3 cm. The right measures 0.34 cm. Evaluation of the peritoneal cavity did not reveal any evidence of effusion. The omentum is of normal uniform echogenicity.

Other

A brief view of the heart was submitted. No pericardial effusion was seen.

The cervical area is evaluated. There is a rounded hypoechoic slightly heterogeneous mass effect in the region of the right thyroid, measuring 1.15 cm x 0.99 cm (in sagittal view, this lesion measures 1.06 cm x 2.34 cm). This is most consistent with a large parathyroid adenoma, but a carcinoma or primary thyroid mass lesion cannot be excluded as a possibility.

The left side of the neck is evaluated, revealing a normal thyroid gland, measuring 0.38 cm in width and a normal/atrophied left parathyroid gland, measuring 0.18 cm.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

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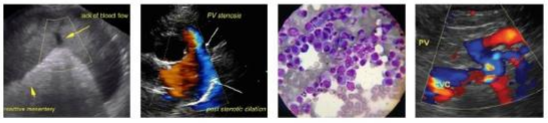

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- Enlarged caudal pole of the left adrenal gland- Left/right adrenomegaly could be consistent with neoplasia (e.g., adenoma, carcinoma, pheochromocytoma), hyperplasia, inflammation, other.
- Heterogeneous liver with a hypoechoic nodule and irregular rounded left liver lobe. The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The hypoechoic lesion trends toward a more benign appearance and the rounded left liver lobe could be within normal limits or could represent and early primary liver mass. I recommend continued monitoring.
- Right sided cervical mass. Primary differential is a parathyroid adenoma, but a carcinoma or thyroid lesion are alternative differentials. I recommend a fine needle aspirate.

Secondary Findings

- Decreased corticomedullary distinction in both kidneys- Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.
- Small hyperechoic nodule in the spleen. This is a very small lesion and trends towards a more benign lesion. I recommend continued monitoring.
- Moderate gallbladder debris

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The caudal pole of the left adrenal gland appears rounded and enlarged. This could represent hypertrophy and adenoma or an early neoplastic lesion. The appearance of this lesion trends toward a more benign process, as it is isoechoic and well circumscribed at this time. Additionally, the right adrenal gland is relatively large. If this was a hormone secreting tumor, you would expect some level of atrophy? These are my recommendations for an adrenal nodule.

- If signs of cushings are present, consider adrenal function testing. I prefer an ACTH stimulation test combined with an adrenal panel to the University of Tennessee's endocrine lab to look for atypical adrenal hormones as well as cortisol. (other testing can suffice)
- If adrenal dependent cushings is suspected and supported by adrenal function testing consider medical therapy with lysodren or trilostane or consider surgical removal (recommend referral to a board certified veterinary surgeon and possible pre op CT)
- Recommend blood pressure evaluation-if hypertensive consider testing catecholamine levels for a possible pheochromocytoma
- If no symptoms of cushings are present, consider either referral for surgery or continued monitoring with ultrasound (in 3-4 months).
- Many of these nodules can be benign and incidental in nature, unfortunately that is difficult to determine with a single ultrasound.

The changes observed in the liver are nonspecific. There is a rounded, irregular left liver lobe. Similarly, this could represent normal anatomic variation or an early mass lesion. I recommend a fine needle aspirate of the left liver lobe and continued monitoring.

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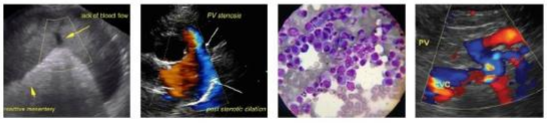

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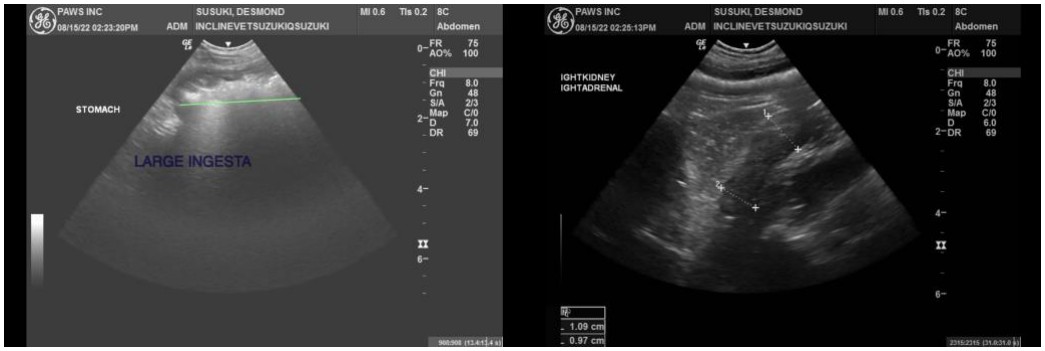
There is a hypoechoic rounded mass effect in the region of the right thyroid/parathyroid gland. Based on the elevated calcium and the well circumscribed appearance of this lesion, I'm hoping this could be a large adenoma, but removal and histopathology are likely necessary. I recommend an ionized calcium PTH and PTHrP level (to University of Michigan) for further evaluation and likely referral to a veterinary surgeon for surgical removal of this lesion and continued monitoring of calcium levels.

Consider three view thoracic radiographs to rule out concurrent thoracic disease/involvement.



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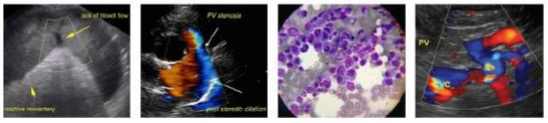

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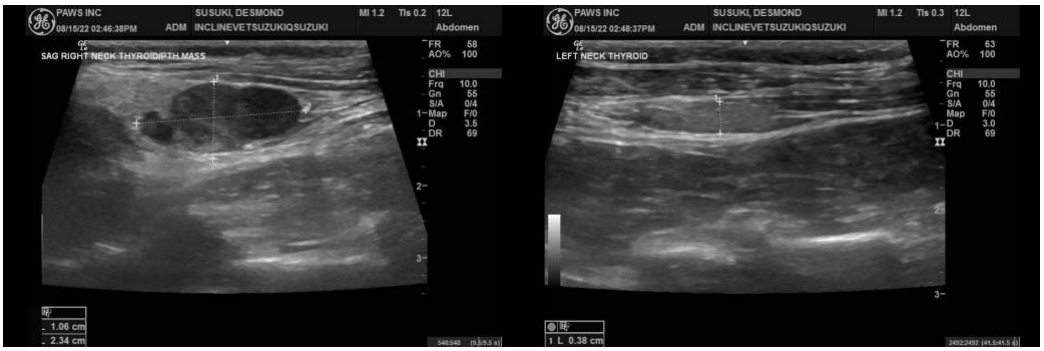

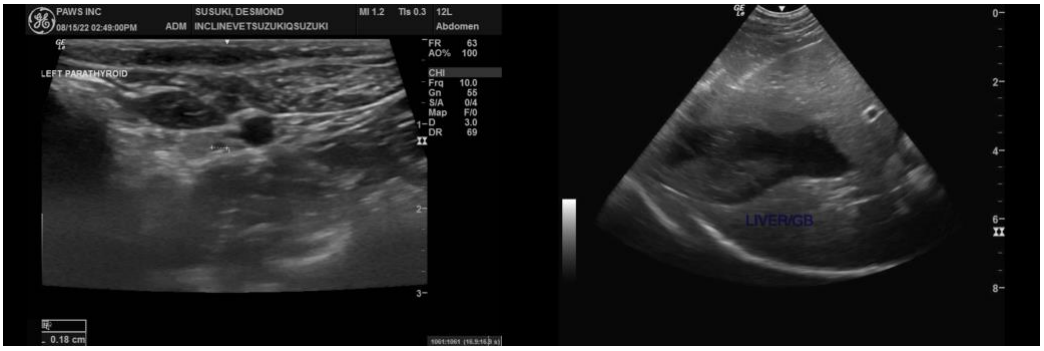

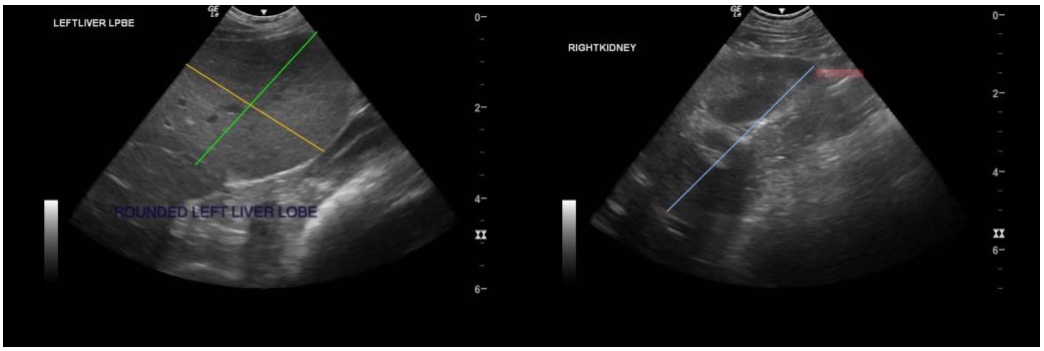

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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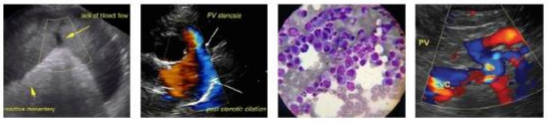

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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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kathleen.sennello@sonopath.com