



PATIENT

Minuet Risberg

SPECIES

Canine

BREED

Shetland Sheepdog

SEX

Spayed Female

AGE

14 Years

WEIGHT

25 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Julia Bakker, DVM

HOSPITAL NAME

Orange Blossom
Veterinary Imaging

REFERRING VET

Molly Caldwell, DVM

INVOICE

75977

DATE

6/17/26

PRESENTING CLINICAL SIGNS

Discussed thyroid test results showing free T4 levels at the low end of normal range (0.6, with normal range 0.6-4.0). Explained that both values are at the lowest acceptable levels, which combined with clinical signs suggests hypothyroidism. Reviewed patient's current good condition while on kidney diet and discussed potential benefits of thyroid supplementation including improved mobility, coat quality, and overall demeanor. Explained abdominal ultrasound procedure as non-invasive diagnostic tool to evaluate liver, gallbladder, pancreas, adrenal glands, kidneys, intestines, and bladder.

Abnormal PE/Chem/CBC/UA Results: Elevated liver enzymes (ALKPHOS, ALT, GGT), increased kidney values (BUN 63, creatinine 1.7, elevated SDMA), decreased total T4 (0.8, previously 1.5-1.8 range), elevated calcium (12.1), increased cholesterol, slight anemia altered sodium-potassium ratio due to increased potassium. Explained that urine analysis showed specific gravity 1.025, 2+ protein, and rare rod bacteria from free-catch sample

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 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses or cystic calculi.

The left kidney has a normal shape and size (4.15 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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 (4.15 cm) with a cortical cyst measuring 0.56 cm. Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of focal 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 and abnormal in appearance, measuring 1.6 cm at the cranial pole and 0.51 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is abnormal in appearance in that the cranial pole is enlarged with mixed echogenicity, most consistent with a small mass effect/large nodule measuring 1.67 cm x 1.93 cm. No evidence of vascular invasion is visualized.

The right adrenal gland is borderline plump, measuring 0.98 cm at the cranial pole and 0.77 cm at the caudal pole. *The margins of the cranial pole are difficult to confirm. 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 normal in size and shape, measuring 1.26 cm in width at the level of the hilus. The blood flow through the hilus and splenic parenchyma appears normal. There is a small hyperechoic nodule



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visualized in the parenchyma as well as two very small hypoechoic nodules visualized measuring 0.31 cm and 0.34 cm in diameter.

Liver

The liver is large in size, and normal in 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 hypoechoic/anechoic structure visualized in the right liver, most consistent with a cyst measuring 1.13 cm. A poorly defined hyperechoic lesion is visualized on the left side measuring 1.56 cm in diameter.

The gall bladder lumen is significantly distended. Some areas of the wall appear mildly thickened with adherent debris and some areas have early mucosal stranding and organization of the debris into an early mucocele. There is a large amount of primarily non-organized echogenic debris present as well. There is no evidence of bile duct dilation.

Gastrointestinal

The stomach contains mild shadowing ingesta. 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. Duodenum wall measures 0.43 cm. Jejunum wall measures 0.35 cm. Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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 visible/mildly mottled in the right limb. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

Other

There is a homogeneous isoechoic mass effect visualized measuring 3.1 cm in diameter, which appears located outside the body wall.

ULTRASONOGRAPHIC FINDINGS

- Large, mixed echogenicity nodule visualized associated with the cranial pole of the left adrenal gland – Possible differentials include an adenoma, carcinoma, pheochromocytoma, other.



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- Decreased corticomedullary distinction associated with both kidneys – Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.
- Very small lesions/nodules visualized associated with the spleen (two hypoechoic, one hyperechoic) – There are several, non-cavitated, splenic nodules visualized. Differentials include lymphoid hyperplasia, extramedullary hematopoiesis, infiltrative neoplasia, inflammation, other. Cytology or histopathology would be necessary to get a definitive diagnosis.
- Large, heterogeneous liver with a cystic lesion and an ill-defined hyperechoic lesion – 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 lesions described on today's exam have the appearance most consistent with benign lesions, although continued monitoring is warranted.
- Large, distended gallbladder with a large amount of intraluminal debris and some early irregularity/organization visualized along the gallbladder wall – A large amount of debris is evident in the gall bladder. This could represent an early mucocele or cholestasis, with minimal evidence of associated inflammation at this time. Continued monitoring of labwork and ultrasound are warranted for progression of this lesion. Ursodiol therapy could be considered.
- Extraabdominal isoechoic mass effect – This has the appearance most consistent with a lipoma, although other differentials are possible. Recommend a fine needle aspirate.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is a mixed echogenicity, large nodule/small mass effect visualized associated with the cranial pole of the left adrenal gland. This could be active or non-active and could represent an early neoplastic process or a benign process. If signs of Cushing's are present, consider adrenal function testing. Additionally recommend a blood pressure evaluation. If hypertension is present, recommend measuring catecholamine levels, looking for a possible pheochromocytoma. If surgical removal would be considered, strongly recommend a contrast CT scan to further evaluate and to obtain better visualization in the cranial pole of the right adrenal. If this is not an option, close following with ultrasound is warranted, looking for potential rapid progression of this lesion.

Both kidneys have changes consistent with chronic renal disease. If not already done, recommend a blood pressure, urinalysis and culture +/- urine protein to creatinine ratio as a baseline.

The liver is heterogeneous with some ill-defined lesions that primarily have a benign appearance. The changes in the liver could be consistent with a vacuolar hepatopathy. If further evaluation is desired, consider a liver function test and a fine needle aspirate of the liver.

The gallbladder is very large and distended with a large amount of intraluminal debris and some irregularity at the gallbladder wall. Findings are concerning for the development of an early mucocele. Recommend starting chronic Ursodiol therapy and close monitoring of the gallbladder for progression to a more significant mucocele.



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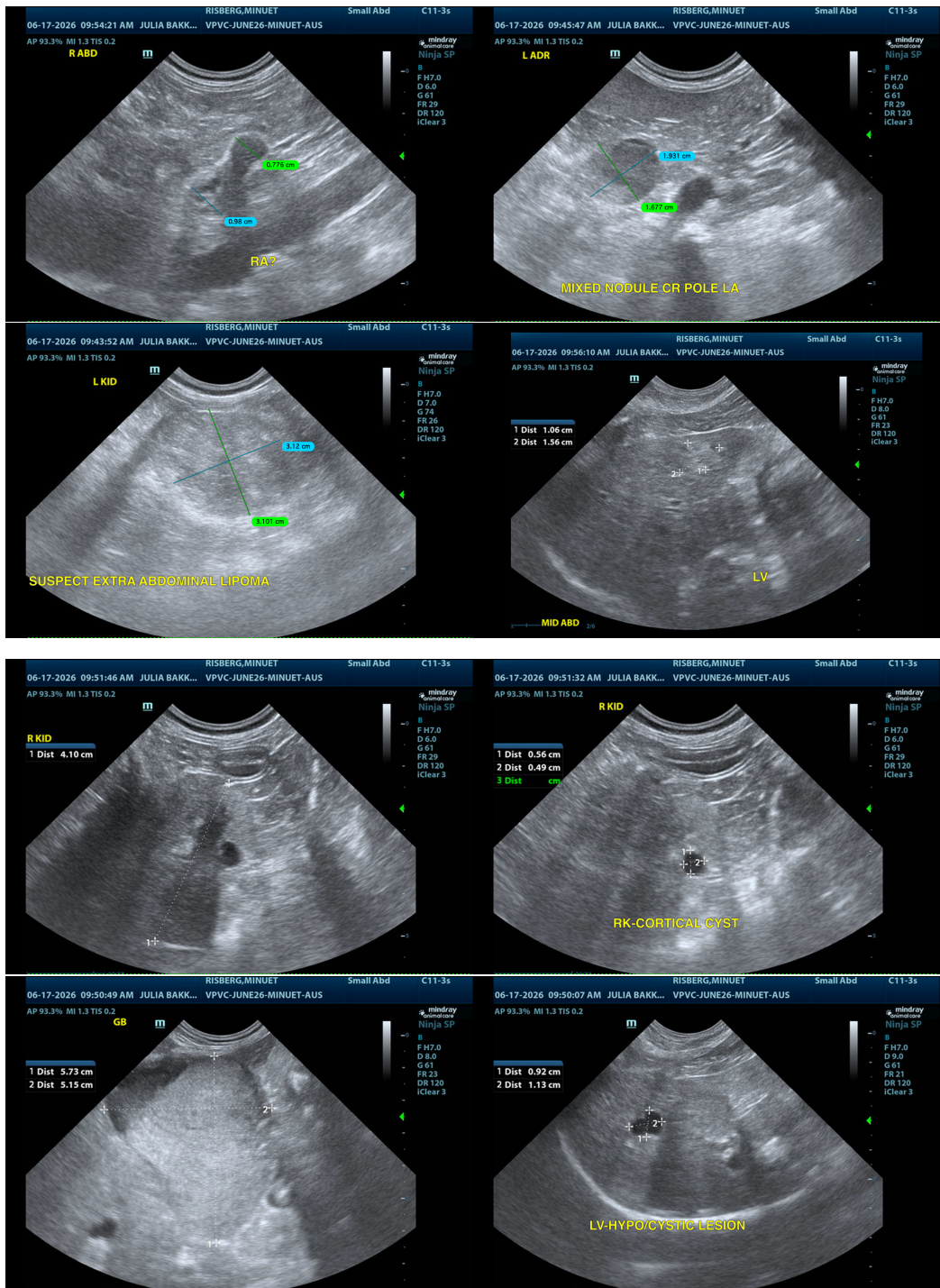
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Recommend three view thoracic radiographs to evaluate for possible concurrent thoracic disease/involvement (disregard if this has already been done).





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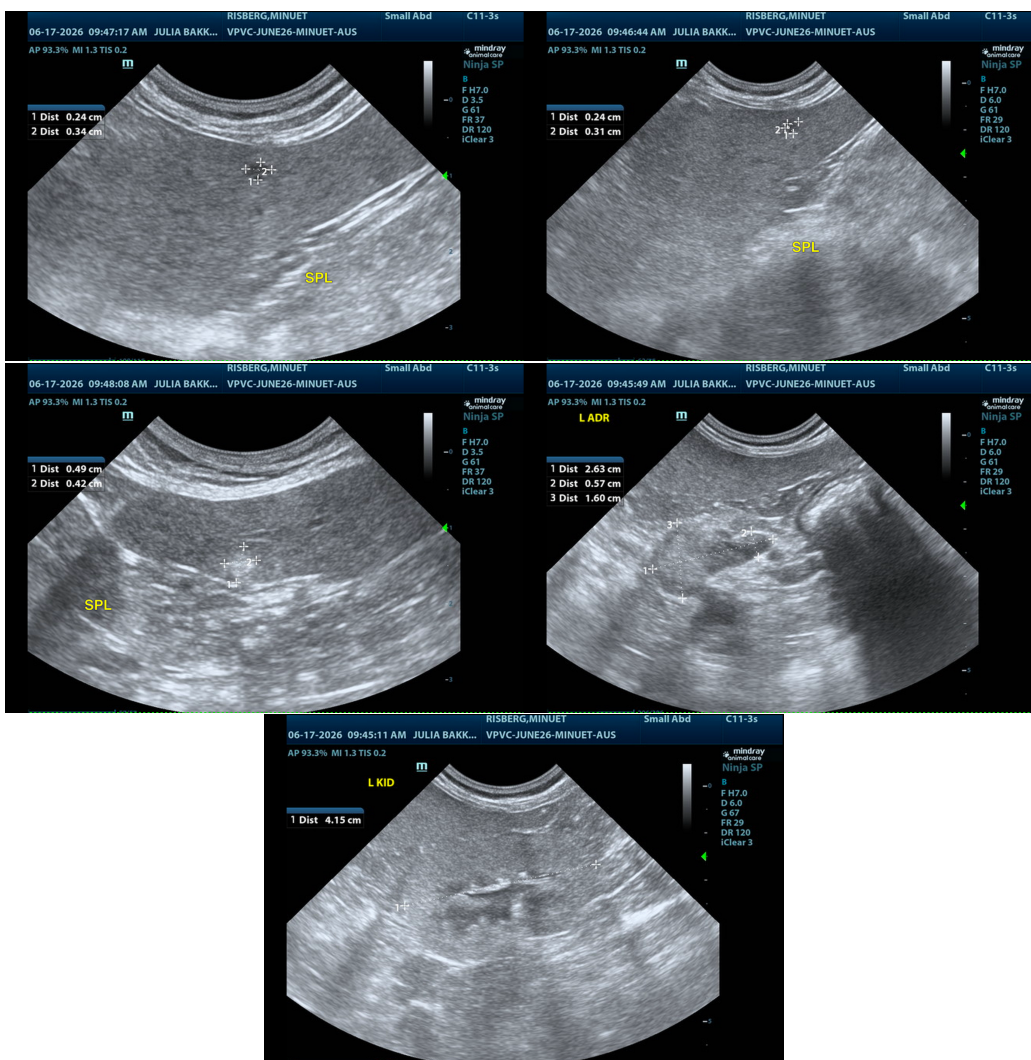
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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