



**PATIENT**

Marina Bella Rodriguez

**SPECIES**

Canine

**BREED**

Yorkshire Terrier

**SEX**

Spayed female

**AGE**

12 years

**WEIGHT**

4.2 lbs

**INTERPRETED BY**

Dr Brittany Sinclair,  
BVSc(hons), DACVECC

**IMAGING PERFORMED BY**

Dr. Ferrer

**HOSPITAL NAME**

Paseos VC

**REFERRING VET**

Dr. Torres

**INVOICE**

42415

**DATE**

1/30/23

**PRESENTING CLINICAL SIGNS**

History: Presented as a referral for an abdominal ultrasound to evaluate the liver. PT has chronic symmetrical hair loss and atopic dermatitis. Sometimes strain to urinate. Severe spondylosis and IV disk compression (L1,L2,L3,L4). PT is on Rimadyl 25mg 1/4 SID and Cytopoint 10mg DDx: Hepatic mass, hepatitis or Cushing's disease

CBC: MCHC 29.8 g/dL (31.0-39.0) CHEM: BUN 26 mg/dL (7.0-25.0) PHOS: 7.2 mg/dL (2.9-6.6)

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, and visible pelvic urethra were of normal thickness. The ureters were not visible which is normal. There was normal wall layering with no masses, uroliths or abnormal thickening visualized. Urine was anechoic. No evidence of inflammatory or neoplastic changes were noted.

The kidneys have a smooth capsule and with mild hazing of corticomedullary definition with approximate maintenance of normal ratio (cortex 1/3 of medulla). No evidence of pelvic dilation was present. The left kidney measured 3.0 cm and the right kidney measured 3.2 cm.

**Adrenal Glands**

Both adrenal glands were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 1.15 cm in length and 0.33 cm at the cranial pole and 0.48 cm at the caudal pole. The right adrenal gland measured 1.19 cm in length and 0.36 cm at the caudal pole.

**Spleen**

The spleen was normal with a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma and smooth capsule, with normal splenic vasculature with no signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarct changes were noted.

**Liver**

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 is distended with small volume anechoic fluid and mostly hyperechoic non-shadowing organized partially stellate debris present. There is no surrounding free fluid or signs of active inflammation.

**Gastrointestinal**

The stomach contains minimal luminal contents. It measures at a normal thickness of 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



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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. 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 base and limbs of the pancreas were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour and parenchyma were normal. No overt evidence of active inflammatory or neoplastic disease was noted.

**Lymph Nodes**

No clinically significant lymphadenopathy or abnormalities noted.

**Free Abdomen**

No masses or free fluid were noted.

**ULTRASONOGRAPHIC FINDINGS**

**Primary Findings**

1. Gall bladder debris, consistent with developing mucocele
2. Normal adrenal glands
3. Normal liver parenchyma

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Gall bladder debris is partially organized with areas of stellate appearance. Some debris does appear gravity dependent and has settled in the final images of the study. The stellate appearance is most consistent with a developing mucocele. Given the lack of reported liver enzyme elevation and lack of evidence of surrounding inflammation, treatment with ursodiol and follow up imaging to assess for content changes is reasonable. Liver parenchyma appears normal. In the absence of elevated liver enzymes, hepatitis or other parenchymal disease is not suspected. Liver aspirate could be considered to further evaluate if clinically warranted.

Gall bladder debris accumulation, along with reported symmetrical alopecia may be secondary to hormonal imbalances such as hyperadrenocorticism, hypothyroidism or sex hormone imbalance. Gallbladder motility study is recommended.

Adrenal glands are normal in size and appearance making hyperadrenocorticism less likely, though cortisol testing could be considered. Thyroid testing (TT4, fT4, TSH) is recommended. Other causes of reported alopecia include sex hormone imbalances, inadvertent exposure to estrogen products, or primary skin/follicular disorders. Skin scrape, cytology, culture initially and ultimately skin biopsy could be considered for more complete diagnosis. Elevations in 17-hydroxyprogesterone may suggest a sex



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hormone disorder, but results are not definitive. Alopecia X is a diagnosis of exclusion and other causes (as above) should be excluded. Reported treatment for alopecia X includes treatment with trilostane, melatonin, deslorelin, medroxyprogesterone, fulvestrant, and microneedling therapy.

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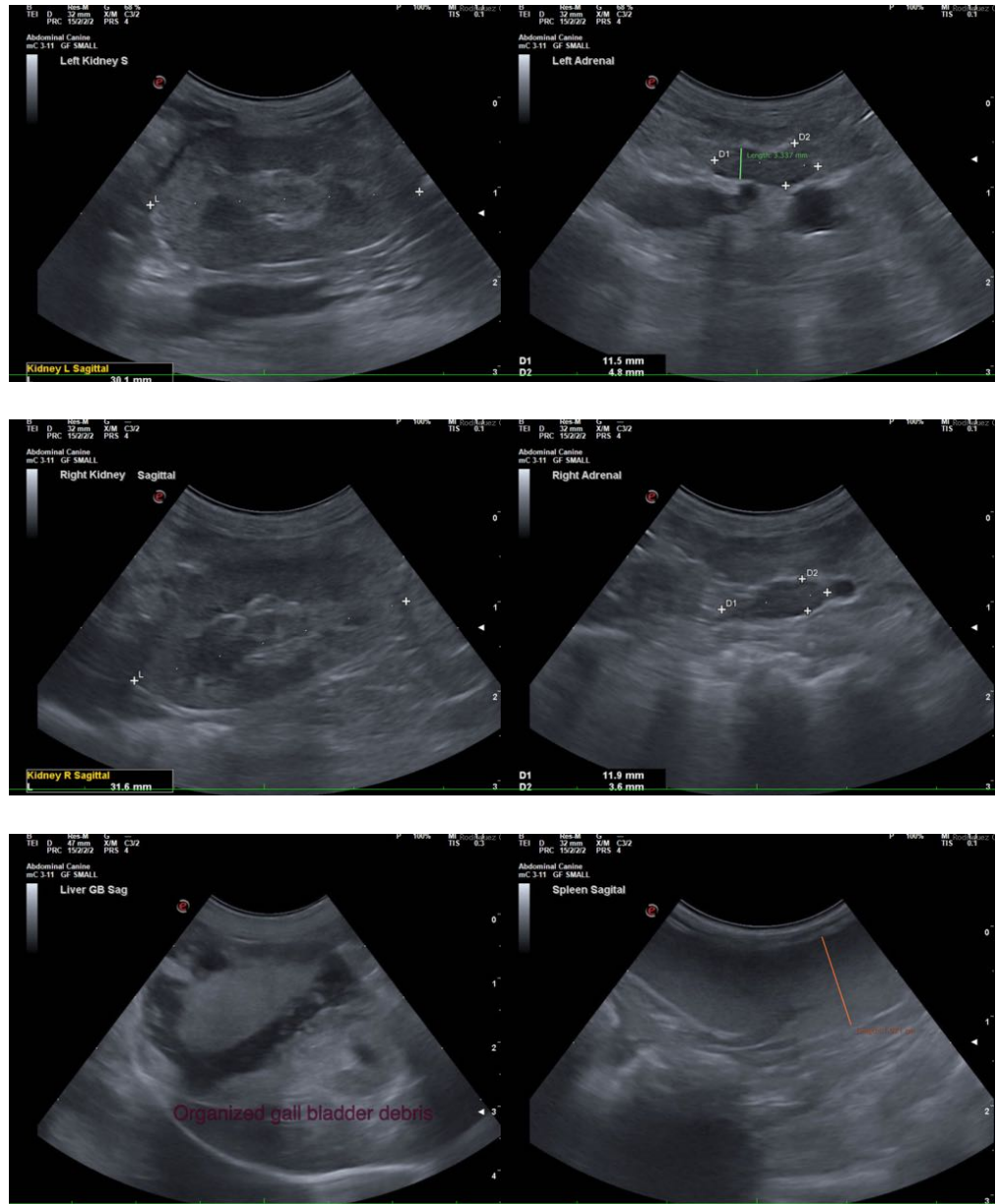
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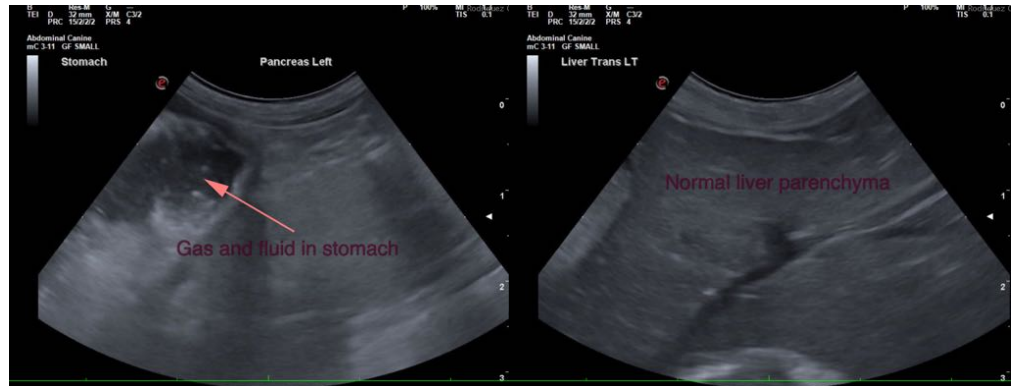
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Dr Brittany Sinclair, BVSc(hons), DACVECC  
info@SonoPath.com