



## PATIENT

Tucker Olmstead

## SPECIES

Feline

## BREED

Burmese

## SEX

Neutered male

## AGE

12 years

## WEIGHT

7.74 lbs

## INTERPRETED BY

Dr. Alicia Angosto  
Guerrero

## IMAGING PERFORMED BY

Melinda Persson

## HOSPITAL NAME

At Home Veterinary

## REFERRING VET

Dr. Persson

## INVOICE

71700

## DATE

2/18/26

## PRESENTING CLINICAL SIGNS

- Weight loss, diarrhea, hypoalbuminemia
- Albumin 2.1 (2.5-3.9)

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### *Urinary System*

The bladder lumen is normally distended, and the wall of the urinary bladder appears thin and smooth. The urine is anechoic. Normal appearance of the bladder neck and proximal urethra. There are no calculi and no ultrasonographic evidence of inflammatory or neoplastic changes.

The left kidney is normal in shape and size: 3.45×2.27 cm, and the thickness of the cortex is 0.38 cm in the sagittal plane. Renal length is within normal limits for an adult cat (approximately 3.0–4.5 cm).

The right kidney is normal in shape and size: 3.25×2.25 cm, and the thickness of the cortex is 0.34 cm in the sagittal plane. Renal length is within normal limits.

Both kidneys: the cortical is increased in echogenicity, resulting in increased corticomedullary distinction. A medullary rim sign is present. There is no evidence of pyelectasia, nephrolithiasis, or hydronephrosis. Doppler color shows a normal vascular pattern.

### *Adrenal Glands*

Both adrenal glands show normal shape and echogenicity. Dorsoventral diameters measured in the sagittal plane: the left adrenal gland measures 0.21 cm at the cranial pole and 0.21 cm at the caudal pole. The right adrenal gland measures 0.25 cm at the cranial pole and 0.22 cm at the caudal pole. These measurements are within normal limits for a cat ( $\leq 0.45$  cm).

### *Spleen*

Splenic thickness is 0.80 cm, within normal limits for an adult cat. The parenchyma demonstrates normal echogenicity and fine homogeneous echotexture without focal parenchymal abnormalities. The splenic capsule is smooth and regular.

### *Liver*

The liver is subjectively normal in size, with sharp edges and a regular contour. The liver parenchyma appears uniform and isoechoic compared to the falciform fat, with a normal echotexture. No hepatic lymphadenopathy is observed.

The gallbladder lumen is normally distended. The wall is thin and the contents are primarily anechoic. No dilation of the cystic duct or common bile duct is observed.



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## Gastrointestinal

The stomach is empty and folded, with mural thickness measuring 1.68 mm and preserved wall layering. This measurement is within normal limits for a non-distended feline stomach. Duodenum: 1.76 mm (within normal limits;  $\leq 2.7$  mm).

Jejunum: 2.36–2.62 mm. Mucosa: 1.22 mm. Submucosa: 0.54 mm. Muscularis propria: 0.31 mm. Total wall thickness is within normal limits. The muscularis-to-mucosa ratio is approximately 0.25, which is within normal limits ( $< 0.5$ ).

Ileum: 1.87–2.02 mm. Mucosa: 0.70 mm. Submucosa: 0.41 mm. Muscularis propria: 0.78 mm. Total wall thickness is within normal limits; however, the muscularis-to-mucosa ratio is approximately 1.11 (0.78/0.70), which is increased. Wall layering is preserved.

The ileocecal junction measures 3.11 mm, with muscularis thickness of 1.48 mm. This represents muscularis-predominant thickening.

Colon: ascending 0.87 mm, with scant soft content and gas. Transverse 1.22 mm, descending 1.61 mm, with scant soft feces. Wall layering preserved.

## Pancreas

The evaluated pancreatic areas do not show evidence of overt inflammation.

## Peritoneal Cavity

No abdominal effusion or peritonitis is observed. Cranial mesenteric lymph nodes measure up to 4.49 mm in thickness. Ileocecal lymph nodes measure 3.23–4.09 mm in thickness; they are normal in shape and mildly hypoechoic. The iliac trifurcation is normal.

## ULTRASONOGRAPHIC FINDINGS

### PRIMARY FINDINGS

- Ileal muscularis thickening with increased muscularis-to-mucosa ratio (~1.11).
- Ileocecal junction muscularis thickening.
- Mild hypoechogenicity of mesenteric lymph nodes (within size limits).

### SECONDARY FINDINGS

- Increased renal cortical echogenicity with medullary rim sign.



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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

This cat presents with weight loss, diarrhea, and clinically significant hypoalbuminemia (2.1 g/dL), raising strong concern for protein-losing enteropathy. The most relevant ultrasonographic finding is muscularis-predominant thickening of the ileum and ileocecal junction. Although total wall thickness remains within or only mildly above reference limits, the muscularis-to-mucosa ratio in the ileum is markedly increased (>1.0), which is abnormal in cats (normal <0.5). Muscularis-predominant thickening with preserved layering is most commonly associated with chronic inflammatory enteropathy or small cell lymphoma.

The jejunum and duodenum are within normal limits, suggesting segmental rather than diffuse involvement.

Mesenteric lymph nodes are within acceptable size limits for cats (generally ≤5 mm short-axis), although mild hypoechogenicity is noted. There is no marked lymphadenopathy.

There is no abdominal effusion despite hypoalbuminemia, which suggests either early or moderate protein loss rather than severe oncotic compromise at this stage.

Overall, the imaging findings are most consistent with chronic ileal enteropathy, with small cell lymphoma and severe inflammatory bowel disease being the primary differentials. Given the hypoalbuminemia, protein-losing enteropathy is strongly suspected.

### Recommendations

- Serum cobalamin and folate measurement is recommended given ileal involvement and weight loss.
- Urine protein:creatinine ratio should be evaluated to exclude concurrent protein-losing nephropathy as a contributor to hypoalbuminemia. In addition, assessment of urine specific gravity and measurement of SDMA are advised to further evaluate renal function. Periodic monitoring of renal parameters is recommended given the increased cortical echogenicity and presence of a medullary rim sign.
- Intestinal biopsy may be required to differentiate inflammatory bowel disease from small cell lymphoma.
- Monitor albumin closely; if levels decline further, early intervention is advised to prevent complications related to decreased oncotic pressure.



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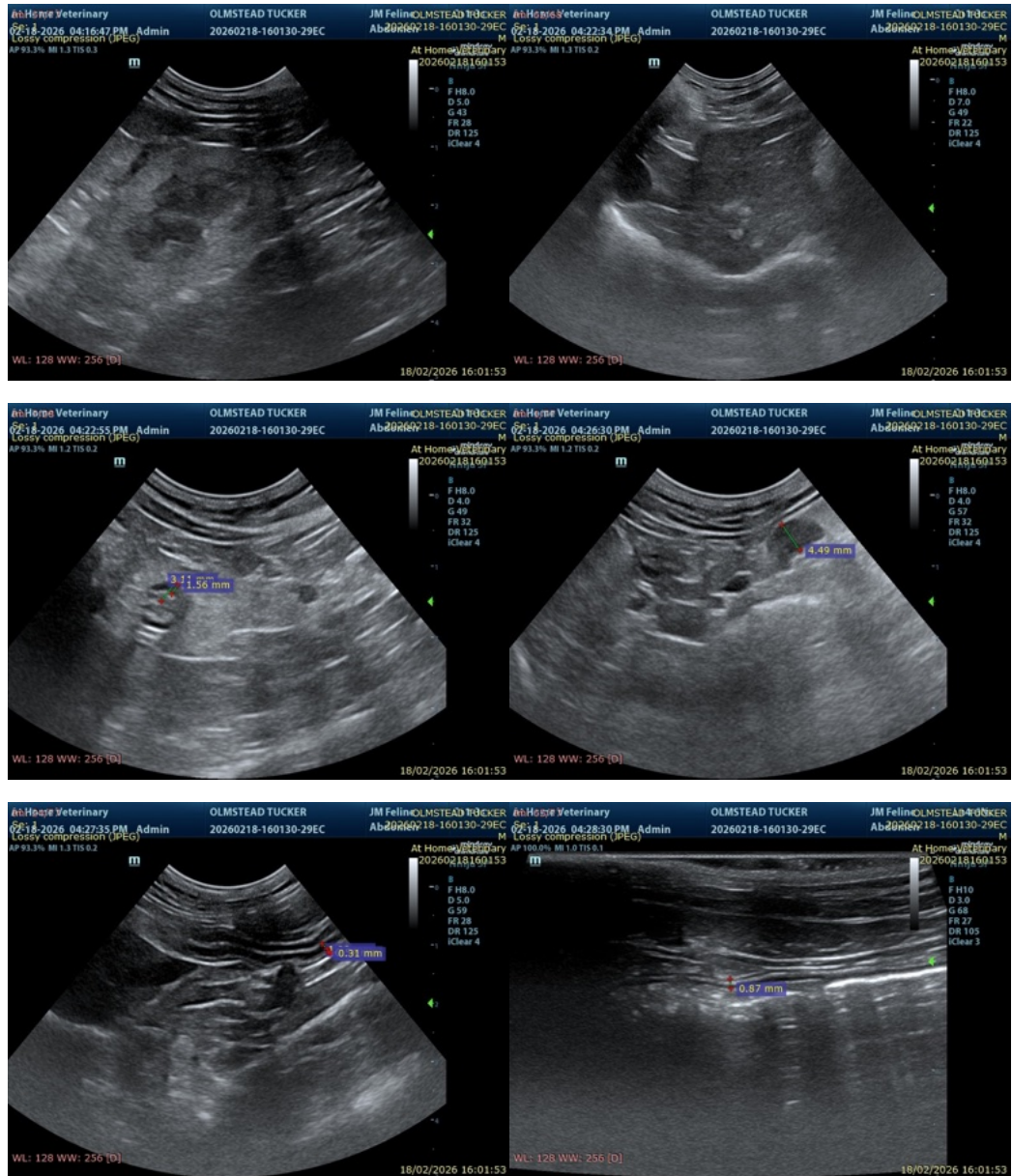
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Alicia Angosto Guerrero, DMV, PgDip, MSc.

MV Esp Ultrasound in Domestic and Wild Animals

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