Extensive small intestinal wall thickening in a cat

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DESCRIPTION

A two-year-old domestic shorthair cat presented for investigation of a six-month history of intermittent vomiting, weight loss, hyporexia and lethargy. Abdominal ultrasound was performed and revealed extensive small intestinal wall thickening (average thickness measured 8 mm) with preserved layering. In particular, there was marked thickening of the muscularis propria layer (variable thickness from 4 to 5 mm) with normal mucosal and submucosal layers (Daniaux and others 2014), Overall, there was normal intestinal peristaltic activity and no evidence of intestinal obstruction.

The ultrasonographic changes were consistent with intestinal smooth muscle hypertrophy such as seen with severe diffuse inflammatory infiltrative bowel disease or a diffuse neoplastic intestinal disease such as lymphoma (Fig 1) (Zwingenberger and others 2010 and Diana and others 2003).

Full-thickness biopsies of duodenum, jejunum and ileum were collected. Histopathology confirmed the thickening of the intestinal wall due to marked expansion/thickening of the muscularis with mild fibrosis and inflammation in the mucosa. The tunica muscularis was approximately five times (inner layer four times, external layer one time) thicker than the submucosal layer (Fig 2). Immunohistochemistry for CD3 and CD79a demonstrated that the lymphoid population infiltrating the intestinal mucosa was composed of an admixture of T and B lymphocytes ruling out lymphoma.

In this case, ultrasound was proven to be an essential means of diagnosis showing similar muscularis characteristics as the ones seen on histopathology (Fig 2). However, full-thickness surgical biopsy followed by histopathology and immunohistochemistry are mandatory to reach a final diagnosis.

FIG 1: Linear probe transverse plane image through a segment of small intestine illustrating severe muscularis intestinal wall thickening

FIG 2: (a) Histopathology of the duodenum. The tunica muscularis (asterisk) appears approximately five times thicker than the submucosa (dagger). H&E stain; bar=400 μm. (b) Linear probe longitudinal plane image of the duodenum, illustrating the same muscularis thickening as seen on (a)
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