

Introduction

Granulomatous Colitis : more than a canine disease?

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Granulomatous Colitis (GC) is a rare form of inflammatory bowel disease (IBD) predominantly diagnosed in young Boxers and French Bulldogs^{1,2}. It is usually associated with mucosally invasive E.coli that are able to persist in macrophages¹.

Eradication of invasive E.coli correlates with remission of clinical signs and histopathological abnormalities³. Genetic analysis of affected dogs has implicated a region on chromosome 38 that is involved sensing and killing of E.coli in other species⁴.

Thus it is emerging that E.coli associated GC in Boxers and French bulldogs is likely a heritable genetic defect sensing or killing of

intracellular E.coli. E.coli associated Granulomatous colitis has not been documented in cats.

Case Report

A 4 years old male neutered cat was referred for chronic intermittent hematochezia and fecal incontinence of 7 months duration. No weight loss was reported and the cat was keeping a good appetite. Symptomatic treatments (including deworming, metronidazole and hypoallergenic diet) have been tried without clinical improvement.

Physical examination, Complete Blood Count and biochemistry panel (including folate and cobalamin) were within normal limits.

Fecal flotation, PCR for Tritrichomonas and Giardia was negative.

Abdominal sonography revealed a colonic wall thickness.

Colonoscopy showed an irregular and thickened colonic wall with multiple erosions, compatible with ulcerative colitis or infiltrative neoplasia (Figure 1).

Histopathologic analysis revealed a multi-focal ulceration of epithelium, with marked



superficial ulcers (1st image 11'oclock). The mucosa was friable and bled easily during the procedure.

Figure 1: Colonoscopy showed thick irregular mucosa with multiple



PAS positive cell and a moderate diffuse lympho-plasmacytic infiltration of the lamina propria (Figure 2). Toluidine-blue and Fite-Faraco stains did not show mast cell infiltration or mycobacteria-like bacteria, respectively.

Rectal wall culture was positive for E.Coli and negative for Salmonella, Yersinia and Campylobacter. Mucosal E.coli were susceptible to multiple antimicrobials that can penetrate macrophages.

Fluorescence In Situ Hibridization (FISH) of colonic biopsies revealed multifocal clusters of intracellular E.Coli (Figure 3).

Treatment with enrofloxacin (5mg/kg SID for 6 weeks) led to the complete resolution

of clinical signs with remission sustained for 4 months to date.

Conclusions

E.coli associated granulomatous colitis can also affect cats and should be considered on the differential diagnosis of chronic hematochezia.

Figure 2. : Histopathologic of colonic biopsies showed marked accumulation of PAS positive macrophages and a moderate diffuse lympho-plasmacytic infiltration.



Further studies are needed to assess molecular, genetic and immune pathways underlying intracellular invasion by E.coli in cats with GC.

References and Acknowledgements

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Figure 3. : FISH of colonic biopsies showing multifocal clusters of invasive intracellular rods (EUB-338, upper row) that hybridized with a proble to E.Coli/Shigella (lower row), similar to granulomatous

colitis in dogs.



