



ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2014 – Gastrointestinal Tract

N07-581-5. A 4 year-old mare with colic

A longitudinal section of small intestine that has a thin (normal) edge that becomes progressively thicker and cellular below the muscularis submucosa at its opposite edge. The entire mucosa is congested and has acute hemorrhage. The villi are blunt, apical enterocytes are lost with little, acute inflammation or necrosis (postmortem artifact). Crypt epithelium have increased numbers of cells with oval, hypochromatic nuclei that pile up (hyperplasia), and mitoses are common. Many cells in the crypt have large, eosinophilic granules (Paneth cells), and these migrate up the villi a short distance (hyperplasia). A moderate, lymphohistiocytic infiltrate with scattered eosinophils and plasma cells separate crypts.

Moving from the thin edge, the submucosa becomes progressively thicker with rarified connective tissue; some proliferating fibroblasts; protein fluid; dilated lymphatics; congested blood vessels; and free erythrocytes (edema, congestion, hemorrhage and fibroplasia) with little inflammation. At the thickest end, vessels with hypertrophied endothelium and hypertrophied and proliferating pericytes accompanied by eosinophils, histiocytes, fibroblasts, and a few lymphocytes grow (granulation tissue) and invade the muscle layers. Similarly, the muscle layers become progressively thicker with large leiomyocytes (hypertrophy) until the thickest end of the section where the invading submucosal vessels dissect and replace 30-50% of muscle. In this area, eosinophils, histiocytes, and lymphocytes are increased and are accompanied by hemorrhage. Broken, vacuolated, and granular leiomyocytes are noted (leiomyodegeneration and necrosis). Finally, the serosa becomes progressively thickened moving from the thin to thick section edges. The thickening is due to the same proliferation of eosinophil-, histiocyte-rich granulation tissue and hemorrhage, and it becomes continuous with the vessels invading from the submucosa.

MDx: Small Intestine: subacute/chronic lymphohistiocytic enteritis; transmural eosinophilic granulation tissue; fibrosis; leiomyohypertrophy and progressive leiomyocyte loss; edema and hemorrhage