

WSC 2023-2024
Conference 20, Case 1
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Colon: There is segmental and transmural **(1pt.)** necrosis within the sections of colon. There is diffuse coagulative **(1pt.)** and primarily lytic **(1pt.)** necrosis of the mucosa and submucosa with replacement by a necrotic coagulum **(1pt.)** of variable combinations and concentrations of viable and necrotic neutrophils **(1pt.)**, hemorrhage **(1pt.)**, fibrin **(1pt.)**, edema, and abundant cellular debris with large number of mixed colonies of bacteria **(1pt.)**. There is scattered mineralization of some of the cellular debris. The necrosis extends into the underlying edematous tunica muscularis. **(1pt.)** Within the muscular tunics, amidst the infiltrating neutrophils, hemorrhage, fibrin, edema and cellular debris, smooth muscle cells demonstrate one or more of the following: shrinkage, hypereosinophilia (degeneration) **(1pt.)**, fragmentation, pyknosis, karyorrhexis, (necrosis **(1pt.)**) and loss. Attempts at regeneration are characterized by pleomorphic nuclei as well as multinucleated cells. Large numbers of smooth muscle cells contain cytoplasmic cysts **(1pt.)** which in turn contain numerous round 2-3um zoites **(1pt.)** with a central basophilic nucleus surrounded by a clear halo. **(1pt.)** Some cysts present in degenerating/necrotic cells are ruptured, with extrusion of zoites into the surrounding tissue. The inflammatory change is much more profound in the inner circumferential layer than the outer circumferential layer, and rarely extends into the serosa. Within the inflamed submucosa, the walls of numerous vessels are expanded by abundant pink protei and small amounts of cellular debris, and often contain fibrinocellular thrombi which are rarely occlusive, and rarely endothelial cells contain apicomplexan zoites. . **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Colon: Colitis, necrotizing **(1pt.)**, multifocal to coalescing, transmural **(1pt.)** with vasculitis, thrombosis numerous intramyocytic zoites **(1pt.)**.

CAUSE: *Neospora caninum* **(2pt.)**

O/C: **(1pt.)**

WSC 2023-2024
Conference 20, Case 2
Tissue from a horse

MICROSCOPIC DESCRIPTION: Colon. **(1pt.)** The submitted section of colon is markedly and transmurally thickened **(1pt.)** by poorly-formed pyogranulomas **(1pt.)** that diffusely efface the necrotic mucosa **(1pt.)**, and extend transmurally through the wall. **(1pt.)** There is diffuse ulceration and loss of the mucosa with extension of necrosis and inflammation into the underlying submucosa. Pyogranulomas range up to 5mm in diameter, and are composed centrally of large numbers of admixed viable and necrotic neutrophils **(1pt.)** and macrophages **(1pt.)** containing large numbers of 1-2um coccobacilli **(1pt.)**, and abundant intra- and extracellular cellular debris. Peripherally, bacilli-laden macrophages and fewer multinucleated giant cells predominate **(1pt.)**, and at the periphery, there are concentric layers of loosely arranged collagen with interspersed plump fibroblasts **(1pt.)**, and occasional aggregates of low to moderate numbers of lymphocytes. In one focus, the pyogranuloma breaches and effaces the muscularis **(1pt.)** and extends into the serosa. In the muscularis lymphatics and small veins are widely ectatic and often contain nonocclusive fibrinocellular thrombi **(1pt.)** composed of lymphocytes and macrophages. There is a lymph node adjacent to the serosa which is diffusely effaced by pyogranulomatous inflammation. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: 1. Colon: Colitis, pyogranulomatous **(1pt.)** and necrotizing, chronic, multifocal to coalescing, severe, with pyogranulomatous lymphangitis **(1pt.)** and edema, and numerous intrahistiocytic and extracellular coccobacilli. **(1pt.)**

2. Lymph node: Lymphadenitis, pyogranulomatous and necrotizing, diffuse, severe with numerous intrahistiocytic and extracellular coccobacilli. **(1pt.)**

CAUSE: Rhodococcus equi **(2pt.)**

O/C: **(1pt.)**

WSC 2023-2024
Conference 20, Case 3.
Tissue from an ox.

(I'm not grading this out, as there really aren't very points here to assign, but it is a classic entity that is easily recognizable.)

MICROSCOPIC DESCRIPTION: Small intestine. There is marked autolysis affecting the entire section. Segmentally along approximately 75% of the section, there is profound and acute hemorrhage which dissects the autolytic mucosa off of the remainder of the intestinal wall at the approximate level of the muscularis mucosa. The hemorrhage dissects downward into the submucosa and inner circumferential smooth muscle layer.

MORPHOLOGIC DIAGNOSIS: Small intestine, muscularis mucosae, submucosa, and inner circumferential smooth muscle layers: Hemorrhage, segmental, acute, diffuse, severe.

NAME THE CONDITION: Hemorrhagic bowel syndrome

WSC 2023-2024
Conference 20, Case 4.
Tissue from a pig

(Once again, not really enough changes in this slide to warrant assigning points.)

MICROSCOPIC DESCRIPTION: Intestine: Two sections of ileum are submitted for examination. There is segmental shortening of the villi. Villar and crypt enterocytes appear within normal limits; however, scattered throughout the section, there are individual and groups of enterocytes whose nucleus is moderately expanded by a single eosinophilic glassy intranuclear viral inclusion which is surrounded by a clear halo. There is mild diffuse edema of the lamina propria and a mild subjective increase of lymphocytes, plasma cells and eosinophils. There is mild to moderate lymphocytolysis of the ileal Peyer patches, with moderate numbers of apoptotic lymphocytes and tingible body macrophages

MORPHOLOGIC DIAGNOSIS: Ileitis, lymphoplasmacytic, diffuse, mild with few enterocytic intranuclear viral inclusions.

CAUSE: *Porcine adenovirus*

O/C: