



Diagnostic Exercise

From The Davis-Thompson Foundation*

Case #: 104 Month: September Year: 2018

Answer sheet

Title: Right dorsal colitis in a horse.

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Clinical History: A 2-year-old Quarter horse gelding with a history of receiving Banamine® (flunixin meglumine) for an undetermined period. The horse developed colic that lasted for several hours and it was unresponsive to aggressive treatment with several pain killers. Due to the poor prognosis, euthanasia was performed.

Necropsy Findings:



Figure 1



Figure 2

Morphologic Diagnosis: Colitis, right dorsal, necrotizing, segmental

Condition: Right dorsal colitis

Etiology: Nonsteroidal anti-inflammatory drugs (NSAIDs)

Pathogenesis: NSAIDs inhibit cyclooxygenase 1 and 2 (COX-1 and COX-2), which in turn induces decreased production of prostaglandin E₂ and nitric oxide with the ultimate effect of tissue ischemia. The lesions start with microvascular injury, followed by microthrombosis, ischemia and ulceration.

Comments: Microscopic examination confirmed severe necrotizing right dorsal colitis with extensive vasculitis and many fibrin thrombi. Given the morphologic diagnosis, location, exclusion of other causes of colitis and history of Banamine® administration, this is likely consequence of NSAIDs toxicity. NSAIDs cause ulceration in several parts of the alimentary tract and necrosis of the renal pelvis. In horses, the right dorsal colon is most frequently affected, hence the name 'right dorsal colitis'. However, lesions in other parts of the alimentary tract, including other portions of the large colon, may also occur. Morphologically, right dorsal colitis cannot be differentiated from some of the most common infectious colitis of horses (e.g. *Clostridium difficile*, *C. perfringens* type C and *Salmonella* sp. infections). There are no specific tests to confirm the diagnosis of NSAIDs toxicity, and the diagnosis should therefore be based on a history of NSAIDs administration and ruling out infectious causes of colitis.

References:

Uzal FA, Hostetter J & Plattner B. 2016. Alimentary system. In: Jubb, Kennedy and Palmer's Pathology of Domestic Animals. 6th Edition. Grant Maxie editor. Elsevier, Ames, IO, pp. 1-257.

Galvin N, Dillon H & McGovern F. 2004. Right dorsal colitis in the horse: Minireview and reports on three cases in Ireland. Irish Veterinary Journal 57, 467-473.

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