

Latin Comparative Pathology Group

The Latin Subdivision of the CL Davis Foundation

Diagnostic Exercise

Case #: 60 Month: September Year: 2015

Answer Sheet

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Clinical History: Serosal (top) and mucosal surfaces (below) of a segment of the right dorsal colon of a thoroughbred yearling, which was submitted to euthanasia because of persistent ill-thrift and worsening exercise intolerance.

Necropsy Findings:



Figure 1



Figure 2

Description: The serosal surface of the colon is elevated by smooth cream-colored semiconfluent nodules of variable size; the smaller ones tending to form chains aligned circumferentially around the bowel. There are areas of hemorrhage, hyperemia and edema associated with some groups of nodules. The mucosal surface is extensively and deeply ulcerated, most ulcer margins being reddened and raised.

Interpretation (basic processes): There is always some degeneration involved in ulceration, but this is likely to be secondary to either inflammation or to neoplasia. Likewise, hyperemic nodularity can be due to either productive inflammation or to neoplasia, and again any degeneration is likely to be secondary (primary degenerative processes rarely produce focal increase in volume). Of course the age and history strongly favor inflammation over neoplasia, so inflammation is the preferred primary disease process.

This quantity of exudate and degree of damage clearly did not occur over a few days, so the inflammation could be designated chronic, although the edema and hyperemia suggest that there is an acute component. Hence chronic active inflammation.

Morphological diagnosis: Chronic active ulcerative colitis; chronic active colonic lymphangitis.

Etiology and changes in other organs: *Rhodococcus equi* is the most likely cause, especially if extensive suppurative bronchopneumonia was found in the same animal. In passing, it could be mentioned that yearlings are less susceptible to this infection than are younger animals.

Pathogenesis: *R. equi* is often recoverable from feces of normal horses and foals, so association of *R. equi* colitis with *R. equi* pneumonia has been held to be the result of infectious exudate being swallowed and acting as a high-dose inoculum, which is necessary for infection of the alimentary tract. Nevertheless, cases of *R. equi* enterocolitis have been recorded in the absence of *R. equi* pneumonia, so it seems that primary infection of the bowel can occur. Conversely, about half of the cases of *R. equi* pneumonia are unaccompanied by enterocolitis, so there is probably a lot more to learn about the pathogenesis of this infection. With the increase in iatrogenic and infectious immunosuppression in humans, there has been a corresponding increase in reported *R. equi* infections in man; often these are severe and generalized, as one might expect.

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A final document containing this material with answers and a brief discussion will be posted on the C. L. Davis website by the end of the current month (http://www.cldavis.org/lcpg_english.html).