Diagnostic Exercise
From The Davis-Thompson Foundation*

Case #: 119 Month: April Year: 2019

Answer Sheet

**Title:** Equine multinodular pulmonary fibrosis

**Contributors:** Alan T. Loynachan, DVM, PhD, Dip. ACVP, University of Kentucky Veterinary Diagnostic Laboratory. Lexington, KY.

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Figure 1 - Right lung lobe, cut surface.
Figure 2 - Lung, 20X. Inset 60X. Hematoxylin and eosin.

Morphologic diagnosis: severe chronic multifocal nodular and fibrosing interstitial pneumonia

Name the disease: equine multinodular pulmonary fibrosis

Etiology: *Equid gammaherpesvirus 5*

Typical gross findings:

- Discrete, multifocal to coalescing, tan-white, variously firm nodules that range from <1 cm up to 10 cm in diameter are located in both lung lobes.
- Nodules are separated by unaffected, normal pulmonary parenchyma.
- Bronchial lymph nodes are frequently enlarged.
Typical microscopic findings:

- Well-demarcated nodules are surrounded by normal parenchyma. The interstitium within nodules is expanded by large amounts of fibrous connective tissue that is infiltrated with minimal to low numbers of lymphocytes, plasma cells, neutrophils, and macrophages.

- Alveolar spaces are typically retained and contain low to moderate numbers of neutrophils and macrophages and small amounts of cell debris. Macrophages occasionally contain large acidophilic, intranuclear, viral inclusion bodies. Alveolar septa are lined by hypertrophied and hyperplastic type 2 pneumocytes.

- Bronchial lymph nodes exhibit lymphoid hyperplasia with increased numbers of macrophages and multinucleated giant cells in the sinuses.

Discussion: Equine multinodular pulmonary fibrosis is a relatively recently described entity of middle age to older horses. This progressively fibrotic and inflammatory disease can develop in horses of either sex and any breed. Clinical signs typically consist of increased respiratory effort, tachypnea, lethargy, fever, weight loss, and anorexia. The pathogenesis is not known, but *Equid gammaherpesvirus 5* (formerly *Equine herpesvirus 5*) is frequently associated with the disease and identified within the lesions.

References:


*The Diagnostic Exercises are an initiative of the Latin Comparative Pathology Group (LCPG), the Latin American subdivision of The Davis-Thompson Foundation. These exercises are contributed by members and non-members from any country of residence. Consider submitting an exercise! A final document containing this material with answers and a brief discussion will be posted on the CL Davis website ([http://www.cldavis.org/diagnostic_exercises.html](http://www.cldavis.org/diagnostic_exercises.html)).

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