

ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2010 – Mock Exam Case 9

Tissue from a Horse

Lung

The pulmonary parenchyma is markedly expanded by a well-demarcated nodular mass comprised of large amounts of collagenous tissue, within which there are multiple circular or irregularly shaped/branching tubular/alveolar-like structures lined by single layers of cuboidal epithelial cells. The epithelial cells are plump and cuboidal with a moderate amount of pale-staining, sometimes finely vacuolated cytoplasm that has well-defined margins. Many of the lumens of the alveolar-like structures are filled with neutrophilic debris (necrosis), as well as eosinophilic fibrillar to amorphous material (proteinaceous fluid); there is multifocal to diffuse erosion of the epithelial lining. Some larger (bronchiole-like) spaces are lined with up to 10 layers of cuboidal to columnar epithelial cells (hyperplasia). The collagenous tissue contains numerous plump (reactive) fibroblasts that are arranged in interconnecting streams and bundles; towards the margin with the normal parenchyma they are organized in parallel bundles. The stromal tissue contains moderate infiltrates of plasma cells and neutrophils with smaller numbers of lymphocytes and some macrophages with occasional large, multinucleate giant cells that have peripheral nuclei. Some giant cells are also noted within alveolar spaces. There are extensive, irregularly shaped, coalescing areas in which there is complete loss of cellular detail with large amounts of nuclear debris (necrosis) and multifocal, small to moderately sized deposits of crystalline deeply eosinophilic material (mineralization). There is mild compression of the immediately adjacent parenchyma. There is diffuse moderate congestion of blood vessels. The interstitium is multifocally expanded by similar, smaller nodular granulomatous masses.

Morphologic diagnosis / diagnoses

Nodular fibrosis, chronic-active, multifocal, severe, with intralesional alveolar-like structures, suppurative, granulomatous and lymphoplasmacytic inflammation, and necrosis and mineralization, lung.

Name the disease

Equine multinodular pulmonary fibrosis (or equine herpesvirus-associated fibrotic lung disease).

Etiology / Etiologies

This has been associated with equine herpesvirus 5.

Reference: Veterinary Pathology (2007) 44:849-862.



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Lung	1
Nodular mass	0.5
Large amount of collagenous tissue.....	1
Reactive fibroblasts.....	1
Streams and bundles (collagen)	1
Tubular / alveolar-like structures	1
Cuboidal epithelial cells.....	1
Single epithelial layer	1
Neutrophilic debris (necrosis).....	1
Proteinaceous fluid.....	1
Mineralization.....	0.5
Erosion of the alveolar-like structures	1
Hyperplasia of the bronchiolar-like epithelial cells	1
Lymphocytes.....	0.5
Plasma cells	0.5
Multinucleated giant cells	0.5
Smaller granulomatous masses	0.5
Morphologic diagnosis.....	3
Etiology	1
Name of the disease	1
Style	1