

ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2010 – Mock Exam Case 8

Tissue from a Bovine

Nasal cavity

The mucosa is diffusely infiltrated by numerous parasitic elements located immediately below the epithelium, in the lamina propria, and in the interstitium of submucosal mucous glands. Parasitic elements are voluminous spherical thick-walled cysts measuring **200 to 500 µm** in diameter, that consist of the following concentric layers:

- The **outer layer** is basophilic, homogeneous, extracellular and is 20 µm thick.
- The **inner layer** is pale-staining, eosinophilic, measures 10 µm in thickness and is consistent with a thin rim of the host cell's cytoplasm.
- Parasitic cysts consist of a **giant multinucleated cell** with peripherally located large elongated nuclei (**karyomegaly**). These giant cells contain a central vacuole in which hundreds of small round to crescent-shaped (2 to 5 µm in diameter) unicellular nucleated organisms (coccidian **bradyzoites**) are seen. The cysts occasionally compress surrounding tissue. The lamina propria is diffusely infiltrated by moderate numbers of lymphocytes and plasma cells. The epithelium is diffusely and moderately hyperplastic.

Morphologic diagnosis / diagnoses

Diffuse, lymphoplasmacytic and hyperplastic rhinitis associated with numerous intracellular giant protozoan cysts.

Etiology / Etiologies

Besnoitia besnoiti

Marks

Mucosa	1
Parasitic elements.....	0.5
In the lamina propria	0.5
In the interstitium of glands	0.5
Size of the cysts	1
Giant multinucleated cell	1
Karyomegaly	1
Bradyzoites	1
2 to 5 micrometers	0.5
Peripherally located	0.5
Elongated nucleus	0.5
Inner layer of wall	1
Outer layer of wall	1
Lymphocytes, plasma cells	1



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Epithelial hyperplasia	1
Compression.....	1
Morphologic diagnosis.....	3
Etiology	2
Style	2