



ECVP/ESVP Summer School in Veterinary Pathology



Marie Curie Training Courses

Summer School 2006 – Emerging Infectious Diseases Case 10

CASE 10 Provided by: Dr. Sophette Gers, Western Cape Provincial Laboratory,
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Signalement: Two Goeldi's monkeys, adult.

History:

From "theme park", where monkeys are kept in large cages. Both animals are from the same cage and were found dead within 10 days of each other. Upon questioning, the owners admitted that stray cats were a problem in the park.

Gross Findings: None.

Histology: Tissue from a Goeldi's monkey.

1. DESCRIPTION OF HISTOLOGIC FINDINGS

Liver. Scattered, random, multifocal, variably sized areas of hepatocytes exhibit loss of cellular detail, hypereosinophilic cytoplasm, karyorrhectic and pyknotic nuclei (necrosis). Surrounding these necrotic foci and multifocally elsewhere in the liver (particular around portal areas), there are infiltrations by neutrophils, with lesser macrophages, lymphocytes and plasma cells. Scattered single necrotic hepatocytes are also seen. In the described areas, mainly within occasional Kupffer cells, there are intra-cytoplasmic, 2-4 μm diameter, basophilic structures (tachyzoites). Hepatocytes exhibit mild to moderate diffuse cytoplasmic vacuolation, with numerous small vacuoles. There is moderate diffuse hyperaemia.

Lung. Multifocal to coalescing areas of parenchyma exhibit moderate expansion of alveolar walls by lymphocytes, plasma cells, macrophages and neutrophils, and severe hyperaemia of alveolar capillaries. Within alveoli, there are moderate numbers of often large, vacuolated, occasional binucleate desquamated alveolar macrophages, lymphocytes, plasma cells, neutrophils, multifocal accumulations of erythrocytes (alveolar haemorrhage) and fibrin. Occasionally, alveolar macrophages contain erythrocytes within the cytoplasm (erythrophagia). Within alveolar macrophages, but also cell-free within alveoli (often embedded into fibrin), there are moderate numbers of 2-4 μm diameter, basophilic structures (tachyzoites).

2. MORPHOLOGIC DIAGNOSIS

Liver; severe, acute, multifocal, necrotising hepatitis with intracellular protozoan parasites.

Lung; severe, acute, multifocal to coalescing, interstitial and desquamative pneumonia with intracellular (alveolar macrophages) and cell-free protozoan parasites.

3. ETIOLOGY

Toxoplasma gondii