ECVP/ESVP Summer School in Veterinary Pathology

Marie Curie Training Courses

Summer School 2006 – Emerging Infectious Diseases Case 17

CASE 17 Provided by: Mark Wessels, VLA Preston, UK

Signalement: Eland (*Taurotragus oryx*), 6 years, female.

History:
Zoo animal. Sudden weight loss over two weeks.

Gross Findings:
Moderate emaciation. Miliary granulomas and discrete larger areas in the lungs. Severe enlargement of bronchial lymph nodes.

Histology: Tissue from an eland.

1. DESCRIPTION OF HISTOLOGIC FINDINGS

Lung. The architecture is in large areas effaced by multiple, variably sized, partly coalescing areas of cellular infiltrations (granulomas) which centrally exhibit variably sized areas of complete loss of cellular and nuclear detail (caseous necrosis). These are surrounded by cell-rich infiltrates of macrophages, which often exhibit large, mainly ovoid vesicular nuclei (up to 25 μm in diameter) and indistinct cell borders (epithelioid macrophages) with lesser numbers of, mostly degenerate neutrophils and lymphocytes, intermingled with scattered multinucleate giant cells with several round to ovoid, vesicular peripheral nuclei (Langerhans type; up to 100 μm in diameter). Larger foci extend across whole lobules. Blood vessels are generally intensely filled with erythrocytes (intense acute hyperaemia). The parenchyma between the described focal lesions exhibits mild to marked distension/dilation of alveolar lumina (acute alveolar emphysema). Also, alveoli occasionally contain eosinophilic (proteinaceous) material (alveolar oedema) and focally exhibit numerous desquamed alveolar macrophages within the oedematous fluid. The interstitial septa exhibit intense hyperaemia (intensely erythrocyte-filled blood vessels) and focal mononuclear (macrophages, lymphocytes) infiltrates.

2. MORPHOLOGIC DIAGNOSIS

Lung; severe, chronic, multifocal to coalescing granulomatous pneumonia.

3. ETIOLOGY

Mycobacterium bovis.