



ECVP/ESVP Summer School in Veterinary Pathology



Marie Curie Training Courses

Summer School 2006 – Emerging Infectious Diseases Case 3

CASE 3 Provided by: Department of Veterinary Pathology, University of Liverpool, UK.

Signalement: Guinea pig, adult

History:

No idea (I found the blocks which are most likely from the early 1960s).

Gross Findings: No idea (see above).

Histology: Tissue from a guinea pig.

1. DESCRIPTION OF HISTOLOGIC FINDINGS

Kidney. There is moderate diffuse hyperaemia of vessels in the cortex and medulla and scattered glomerular capillaries. Within vessels there are myriad elongated (~6-20 μm in length, 1 μm in diameter) rod-shaped bacteria, single or in chains, intermingled with erythrocytes and embedded into fibrin. Glomerular capillaries also contain very numerous bacteria of the same morphology. [Less frequently, similar bacteria are present within tubules and the interstitium.] Low numbers of tubules contain eosinophilic (proteinaceous) amorphous acellular material (protein casts).

Lung. There is moderate diffuse hyperaemia. Alveolar walls are multifocally moderately distended (mild alveolar emphysema) and multifocally expanded by lymphocytes, plasma cells and fewer neutrophils. Similar infiltrates are also observed around small to medium-sized blood vessels. Within blood vessels and alveolar capillaries there are myriad rod-shaped bacteria, as previously described.

Spleen. Throughout the red pulp there is marked, diffuse hyperaemia. Numerous neutrophils and macrophages, lesser lymphocytes and plasma cells as well as myriad rod-shaped bacteria as described before are present. Bacteria are also present within vessels and the lymphoid follicles, which are small primary follicles [and mildly depleted]. T cell zones (periarterial lymphatic sheaths) are also small.

2. MORPHOLOGIC DIAGNOSES

Kidney; severe hyperaemia, with myriad slender, rod-shaped bacteria (single, short chains) in vessels and glomerular capillaries; mild tubular protein cast formation.

Lung; moderate diffuse hyperaemia, with myriad slender, rod-shaped bacteria vessels and capillaries; mild chronic alveolitis.

Spleen; severe hyperaemia; mild acute splenitis; red pulp packed with slender, rod-shaped bacteria.

3. NAME THE DISEASE

Anthrax

4. ETIOLOGY

Bacillus anthracis