



ECVP/ESVP Summer School in Veterinary Pathology



Marie Curie Training Courses

Summer School 2006 – Mock Exam Case 2

2. Tissue from a CAT

DESCRIPTION OF THE HISTOLOGICAL FINDINGS

Lung. Replacing half the cut section, are 1- to 6-mm-diameter inflammatory foci centered on alveoli and bronchioles.

Within the lumen of bronchi and bronchioles, and alveolar spaces, are hundreds of metazoan parasites. First-stage larvae are approximately 30 micrometers in diameter and 400 micrometers in length, they are usually whorled and ended with a caudal spine. The nematode larvae are round in section, demarcated by a thin cuticle, and have smooth muscle, a body cavity and multiple nuclei. Also filling the alveoli, are thousands of embryonated eggs of the nematodes, usually composed of 4 to 20 pale eosinophilic cells, approximately 40 micrometers in diameter, with distinct margins.

Surrounding the nematode larvae and eggs, are abundant activated macrophages (with epithelioid cell morphology), multinucleated giant cells (sometimes with phagocytosis of nematodes), neutrophils, including degenerate neutrophils, lesser plasma cells and lymphocytes. Alveolar spaces also contain extravasated red blood cells (hemorrhages), a serofibrinous exudate, and increased amounts of macrophages (histiocytosis). Bronchioles and bronchi show a moderate hyperplasia of submucosal glands, hypertrophy of smooth muscle, and slight accumulation of lymphocytes, plasma cells and eosinophils within the chorion. The wall of alveolar ducts shows a multifocal moderate hypertrophy and hyperplasia of the smooth muscle.

Note: adult nematodes were not seen on the sections. Other changes: diffuse marked capillary hyperemia and venous congestion, one site of venous thrombosis (fibrinous); slight focal alveolar emphysema; slight focal interstitial emphysema; one site of collagen sclerosis of the pleura, or osseous metaplasia depending on the slide examined.

MORPHOLOGIC DIAGNOSIS/DIAGNOSES

Multifocal pyogranulomatous (1) pneumonia (1) with intralesional nematode larvae and eggs (1).

ETIOLOGY: *Aelurostrongylus abstrusus*

MARKS

Lung	1
Nematodes or metazoan parasites.....	1
Description of larvae: location, cuticle, size, multiple nuclei	2
Description of eggs: location, size, shape, eosinophilia.....	2
Granulomas: epithelioid cells, multinucleated giant cells.....	2
Lymphocytes, plasma cells, neutrophils.....	3
Alveoli: exudate, histiocytosis.....	1
Bronchi / bronchioles: eosinophils.....	1
Bronchioli / Alveolar ducts: smooth muscle hyperplasia / hypertrophy	1
Morphologic diagnosis.....	3
Etiology.....	1
Design.....	2