



ECVP/ESVP Summer School in Veterinary Pathology



Marie Curie Training Courses

Summer School 2006 – Mock Exam Case 6

6. Tissue from a DOG

DESCRIPTION OF THE HISTOLOGICAL FINDINGS

Spinal cord in coronal section.

Both the right and left halves of the spinal cord, and both the grey and white matters are severely affected and consist of pale structureless tissue with ghost neurons (edema and liquefactive necrosis).

Diffusely in the white matter, there are:

- focal axonal swelling, up to 40 micrometers in diameter (axonal spheroids)
- extravasated red blood cells (hemorrhage)
- marked ballooning and pallor of myelin sheaths
- occasional macrophages with a spumous cytoplasm (Gitter cells).

Diffusely in the grey matter, some neurons are swollen with dispersion of Nissl bodies (chromatolysis) and most neurons are hyperacidophilic, amorphous, with preserved cell borders and karyolysis (coagulative, ischemic necrosis).

Within the medium-caliber veins, and more commonly within the arachnoidal hemorrhage, there are multiple oval-shaped emboli, from 50 to 100 micrometers in length. The emboli are composed of a pale basophilic extracellular material (cartilaginous matrix) in which ghosts of chondrocytes are discernible. The emboli also contain dense connective tissue and fibroblastic cells (necrotic fibrocartilaginous emboli).

Diffusely along the circumference of the spinal cord, the arachnoidal space is markedly expanded with extravasated red blood cells (acute hemorrhages).

MORPHOLOGIC DIAGNOSIS/DIAGNOSES

Focally extensive acute spinal cord infarction (ischemic necrosis) (1) with fibrocartilaginous emboli (1).

NAME THE DISEASE

Fibrocartilaginous embolism; fibrocartilaginous embolic myelopathy (1).

MARKS

Spinal cord	1
Liquefactive necrosis: location + name.....	2
Edema of the white and grey matters.....	1
White matter: spheroids + ballooning of myelin sheaths	2
Grey matter: neuronal chromatolysis + necrosis + description.....	3
Location of the emboli	1
Size of the emboli.....	1
Cartilaginous matrix within the emboli	2
Hemorrhage + location.....	2
Morphologic diagnosis.....	2
Name the disease	1
Design	2