



ECVP/ESVP Summer School in Veterinary Pathology



Marie Curie Training Courses

Summer School 2006 – Emerging Infectious Diseases Case 4

CASE 4 Provided by: Dr. Jerry Ritchey, Oklahoma State University, USA.

Signalement: Sorrel American Quarterhorse, adult, mare, pregnant

History:

Owner found horse down. Referring vet treated with DMSO, flunixin, dexamethasone and phenylbutazon. Horse was then brought to hospital where it could not get up even with rope lifting. A urinary catheter produced very dark urine. The fetus was viable. Rabies was suspected and with no improvement of the clinical situation by morning, the animal was euthanased.

Gross Findings:

The animal was pregnant with 24 cm (crown to rump) male.
There were no gross alterations.

Histology: Tissue from a horse.

1. DESCRIPTION OF HISTOLOGIC FINDINGS

Two sections of spinal cord.

In both sections there is diffuse hyperaemia and diffuse, mild to moderate perivascular oedema. Surrounding some vessels are infiltrates of one to a few layers of lymphocytes with scattered macrophages and neutrophils (perivascular cuffing). In the grey matter, moderate numbers of neurons exhibit irregular clumping of Nissl substance, and occasional neurons exhibit homogeneous eosinophilic cytoplasm and a shrunken outline (necrosis). There is also one to a few small areas of (perivascular) accumulation of erythrocytes (focal haemorrhage). Numerous axons in the white matter are swollen and form central eosinophilic spheroids. There are occasional adjacent macrophages or macrophages instead of axons (myelinophages).

2. MORPHOLOGIC DIAGNOSIS

Spinal cord; mild multifocal mixed cellular poliomyelitis with mild focal neuronal necrosis, haemorrhage and axon degeneration.

3. NAME A LIKELY DISEASE

West Nile virus infection

4. POSSIBLE DIFFERENTIAL DIAGNOSES

- Eastern Equine Encephalitis
- Rabies
- Japanese encephalitis
- Borna disease
- Equine Herpesvirus 1 infection
- Equine protozoal myelitis (*Sarcocystic neurona*)