

ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2010 – Mock Exam Case 6

6. Tissue from a Dog

Cerebrum

Within the cerebrum and compressing surrounding white matter is a nodular neoplastic mass, measuring 1 cm in diameter and extending to two cut borders. The mass is highly cellular, well demarcated, unencapsulated and moderately infiltrative. Neoplastic cells are arranged in solid sheets and are supported by a fibrovascular stroma with prominent microvascular proliferation; some of the latter vessels are forming glomeruloid tufts. Tumor cells are round to polygonal, have indistinct cell borders and moderate amounts of a finely granular pale eosinophilic cytoplasm, and some the nucleus is surrounded by a clear halo, creating a honeycomb appearance (i.e. resembling oligodendrocytes). Nuclei are round to oval, centrally located and hyperchromatic with an indistinct nucleolus. Mitotic rate is 1-2 per high power field. There is moderate anisocytosis and anisokaryosis. (There are single multinucleated cells with up to 3 irregular nuclei that often overlap each other). In several areas are 200 μm diameter deposits of extracellular deeply basophilic, granular material (mineralization). Neoplastic cells are separated by small amounts of (extracellular) pale-staining basophilic material (mucin). Around some larger vessels are numerous extravasated erythrocytes (hemorrhage). The adjacent neuropil is compressed with a mild, diffuse increase in numbers of glial cells (gliosis). There are mild perivascular infiltrates of lymphocytes in a few fields. (Depending on the slide, there are multiple shrunken neurons with dark basophilic nuclei (dark neurons)).

Morphologic diagnosis / diagnoses

Cerebral oligodendroglioma

Marks

Cerebrum.....	1
Neoplastic mass.....	1
Subgross description	
Highly cellular.....	0.5
Well demarcated.....	0.5
Not encapsulated.....	0.5
Moderately infiltrative	0.5
Solid sheets.....	1
Vessels	
Microvascular proliferation.....	0.5
Formation of glomeruloid tufts.....	0.5
Description of cells	
Indistinct cell borders	0.5
Pale eosinophilic cytoplasm.....	0.5



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Clear halo / honeycomb appearance	1
Round to oval nuclei	0.5
Hyperchromatic nuclei	0.5
Oligodendrocytes	1
Mitotic rate: 1 to 2 per HPF	0.5
Anisokaryosis	1
Mineralization.....	0.5
Mucinous deposits.....	1
Hemorrhage	0.5
Gliosis	1
Perivascular lymphocytes.....	0.5
Morphologic diagnosis.....	3
Style	2