

# ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2016 – Mock Exam

## 7. Tissue from a Hamster

### Eye.

The **eye** shows a **poorly delineated, nonencapsulated, sparsely cellular** neoplasm, which **invades and replaces** the **cornea, iris, choroid, retina, and sclera**, fills the anterior and posterior chambers, and focally **invades the extraocular muscle**. The neoplastic cells are mesenchymal, arranged in bundles and solid areas in a very abundant **stroma**; most of the stroma is composed of dense homogenous extracellular material, either acidophilic (**osteoid**), or basophilic (**mineralized osteoid**), in which **lacunae** contain neoplastic cells. The neoplastic cells are spindle-shaped to epithelioid, with indistinct cell borders, a **cytoplasm** inconsistently containing black pigment (**melanin**) within melanosomes, a round to ovoid central euchromatic **nucleus** and a central, prominent, acidophilic, round **nucleolus**. Cellular **atypia** (anisocytosis and anisokaryosis, bi- and macronucleolation) are severe. The mitotic index is 3 mitoses in 10 high power fields. Admixed with the neoplastic cells, are moderate amounts of large (30-40 micrometer) round **macrophages** filled with **melanin (melanomacrophages)**. Minimal multifocal necrosis is found within the neoplasm. The neoplasm is developed in contact to both anterior and posterior surfaces of the **lens**, which is **misshaped** / shows pressure atrophy and peripheral disorganization of cortical lens fibers with liquefaction (**cataracts**, phakolysis). **Extraocular muscles** show multifocal myofiber **hypercontraction** and regeneration (**myotubes**) with **lymphocyte** infiltration.

### Morphologic diagnosis / diagnoses

**Ocular (1) ossifying (1) malignant melanoma (1)**

### Marks

Eye .....	1
Poor demarcation / invasive growth of the neoplasm .....	1
Scleral invasion .....	1
Invasion of iris and cornea .....	1
Adherence to lens .....	1
Cell density (low) .....	1
Osteoid and mineralization .....	2
Neoplastic cells	
Shape .....	1
Nucleus .....	1
Nucleolus .....	1
Cellular atypia .....	1
Mitotic index .....	1
Melanin-laden macrophages / melanomacrophages .....	1
Extraocular muscle changes .....	1
Morphologic diagnosis .....	3
Ocular = 1 point; ossifying malignant melanoma = 2 points; osteosarcoma or sarcoma = 1 point	
Design .....	2