

ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2016 – Mock Exam

8. Tissue from a Rat

Harderian / lacrimal / exorbital gland.

The lacrimal gland shows a **diffuse lesion** characterized by the replacement of 10% acini by multifocal aggregates of **lymphocytes, plasma cells** and **macrophages**, moderately increased **mast cell** numbers, and collagen and fibroblasts (**fibrosis**). **Ducts** show occasional dilation, epithelial cell **necrosis and sloughing**, neutrophils or macrophages in their lumen, and/or epithelial **atrophy** (simple cuboidal to pavementous epithelium). Acinar cells show a marked **karyomegaly** (increased nuclear size up to 15 µm in diameter) and marked hyperbasophilia / **hyperchromatism** (interpreted as a normal finding in the exorbital gland of aged rats, particularly males). *Also accepted: Cytomegaloviral or Polyomaviral inclusion bodies.* **A brown pigment** accumulates mostly in the **lumens of excretory ducts and acini**, occasionally within the cytoplasm of acinar cells and interstitial macrophages. The pigment is either crystalline and arranged in **concentric whorls** (in the lumens of ducts and acini), or **finely granular** (in the cytoplasm of epithelial duct cells and macrophages) (pigment interpreted as **porphyrins**).

Morphologic diagnosis / diagnoses

Focally extensive marked chronic **lymphoplasmacytic (1) dacryoadenitis (1)** with fibrosis.

Moderate **chromodacryorrhea (0.5)** (= porphyrin pigment accumulation).

Marked acinar cell **karyomegaly (0.5)** (age-related change in male rats).

Comment: Rat Coronavirus infection (sialodacryoadenitis virus) (reparative stage)

Marks

Lacrimal gland	1
Lymphocytes	1
Plasma cells	1
Macrophages	1
Mast cells	1
Fibrosis	1
Ducts: atrophy / necrosis	2
Acinar cells: Karyomegaly + size	2
Nuclear hyperchromatism / hyperasophilia	1
Brown pigment (porphyrin)	1
Concentric whorls in ducts and acini	1.5
Finely granular in epithelial and macrophage cytoplasm	1.5
Morphologic diagnoses	3
Design	2

See: Barthold SW, Griffey SM, Percy DH, **Pathology of Laboratory Rodents & Rabbits**, 4th ed, 2016, p120-121 (megalokarya in exorbital glands of old male rats), p122 (rat Cytomegalovirus and Polyomavirus infections), p125-126 (rat Coronavirus, sialodacryoadenitis).