



# ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2015 – Eye

## Case M12

**HORSE**

**HD: eye/anterior segment**

Large central corneal perforation with uveal tissue (most likely corpora nigra) incarceration and prolapse.

The central corneal defect is filled by fibrin plug admixed with neutrophils, mostly karyorectic, and nuclear debris.

Corneal stroma surrounding the perforation is characterized by severe infiltration of neutrophils with nuclear degeneration (karyolysis and karyorrhexis) embedded in lightly eosinophilic amorphous material (colliquative necrosis/malacia). A thick band of neutrophils is visible in deep corneal stroma abutting Descemet membrane. Within this purulent infiltration and embedded within the Descemet membrane, numerous, lightly basophilic, 2-4 um wide, variably length, infrequently septate fungal hyphae that have parallel walls and dichotomous, right angle branching.

In areas of cornea lesser involved by perforation, corneal stroma is diffusely edematous, with prominent, hyperemic blood vessel invasion (neovascularization). Inflammatory cells infiltration, mainly composed of lymphocytes and plasmacells, is recognizable. Small corneal stromal hemorrhages and corneal epithelium attenuation or keratosis are also visible.

Descemet membrane is multifocally interrupted.

Anterior chamber is filled by fibrin and mixed inflammatory cell population (mainly neutrophils and macrophages/ hypopion) with angle closure and collapse.

Focal, thin, pre-iridal fibrovascular membranes are recognizable.

Diffuse, mild, lymphocytic infiltration of iris stroma is also present.

**MD:** corneal perforation and iris prolapse. Severe diffuse fibrinous and purulent keratitis with intralesional fungal hyphae, hypopion, Mild, chronic, diffuse lymphocytic iritis. Angle closure.

**E** *Aspergillus spp.*

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Histologic Description MI2	Points
Style	1
Large central corneal perforation (0.5) with uveal tissue (0.5) (most likely corpora nigra 0.5) incarceration (0.5) and prolapse (0.5).	2.5
<b>Eye</b>	
The central corneal defect is filled by a fibrin plug (0.5) admixed with neutrophils (0.5), mostly karyorectic (0.5), and nuclear debris.	1.5
Corneal stroma severe infiltration of neutrophils (0.5) with nuclear degeneration (karyolysis and karyorrhexis 0.5)	1
corneal stroma colliquative necrosis/malacia and edema	1
Numerous, lightly basophilic, 2-4 um wide, variably length, infrequently septate fungal hyphae that have parallel walls and dichotomous, right angle branching (1) (consistent with <i>Aspergillus spp</i> 0.5).	1.5
Fungi embedded within Descemet membrane,	1
Corneal hyperemic blood vessel invasion (neovascularization).	1
Inflammatory cells infiltration, mainly composed of lymphocytes and plasmacells (0.5), and Small corneal stromal hemorrhages (0.5)	1
Descemet membrane multifocally interrupted.	0.5
Anterior chamber is filled by fibrin and mixed inflammatory cell population, mainly composed of neutrophils (0.5) and macrophages (0.5) (hypopion) 0.5	1.5
angle closure and collapse.	0.5
pre-iridal fibrovascular membranes	0.5
Diffuse, mild, lymphocytic infiltration of iris stroma (iritis)	0.5
<b>MD:</b> corneal perforation (0.5) and iris prolapse (0.5). Severe diffuse fibrinous and purulent keratitis (0.5) with intralesional fungal hyphae (1), hypopion (0.5), Mild, chronic, diffuse lymphocytic iritis (0.5). Angle closure (0.5).	4
<b>E:</b> <i>Aspergillus spp.</i>	1
	20