WSC 2023-2024
Conference 12, Case 1
Tissue from a cat.

MICROSCPIC DESCRIPTION: Eye: This is a peripheral section of the eye with no iris leaflets or optic nerve visible.

The iris **(1pt.)** and choroid **(1pt.)** are markedly expanded, the ciliary body **(1pt.)** is mildly expanded, and the posterior chamber and multifocally the sclera are infiltrated by a cellular infiltrate composed of innumerable macrophages **(1pt.)** large numbers of lymphocytes and fewer plasma cells, admixed with abundant cellular debris, edema and fibrin. The macrophages contain large numbers of intracytoplasmic yeasts. **(1pt.)** Yeasts are 2-4 um in diameter, round with a clear wall and a basophilic center **(1pt.)** E The anterior edge of the iris is lost and yeast-laden macrophages extend into the anterior chamber **(1pt.)**. The drainage angle is closed by the exudate on one side. **(1pt.)** One fragment on lens capsule is present in this section **(1pt.)** The cellular infiltrate within the posterior chamber **(1pt.)** is similar to that in the anterior chamber, with a higher content of edema, fibrin, and cellular debris. The retina is detached **(1pt.)** and markedly degenerate **(1pt.)** with marked loss of nuclei in all cell layers as well as the photorecptor layer. There is a subretinal cellular exudate **(1pt.)** and the underlying choroid is markedly expanded by yeast-laden macrophage and lymphocytes which extends into the posterior sclera. **(1pt.)** There are some non-occlusive thrombi within scleral vessels and perivascular lymphocytes.

MORPHOLOGIC DIAGNOSIS: Eye: Endophthalmitis, **(1pt.)** granulomatous, **(1pt.)** diffuse, severe, with retinal detachment and atrophy and numerous intrahistiocytic yeasts **(1pt.)**

CAUSE: Histoplasma capsulatum **(2pt.)**

O/C: **(1pt.),**

WSC 2023-2024
Conference 11, Case 2
Tissue from a calf.

MICROSCOPIC DESCRIPTION: Eye: There is a butterfly retinal detachment. **(1pt.)** Diffusely, the retina is disorganized, folded, **(1pt.)** and extends across the diameter of the globe to implant on the posterior side of the lens. **(1pt.)** There is loss of the normal retinal architecture **(1pt.)** with blending of the inner and outer nuclear layers **(1pt.)** and formation of numerous rosettes **(1pt.)**in which photoreceptors project into the lumen of the rosette. **(1pt.)** There is subjective expansion of the nerve fiber and inner plexiform layers (which may be due to changes in the adjacent nuclear layers) and these vacuolated layers contribute significantly to the stalk connecting the dysplastic retina to the optic nerve. **(1pt.)** The retina is adherent to the ciliary body **(1pt.)** and the posterior side of the lens; there is no capsule at the area of attachment. **(1pt.)** The lens is flatted in a craniocaudal direction. **(1pt.)** The lens is also disorganized with prominent fibers, cataractous change **(1pt.)** with Morgagnian globules and there nuclei of the lens epithelium are present on the posterior side of the lens. **(1pt.)** There is diffuse thinning of the choroid (choroidal hypoplasia). **(1pt.)** There is a columnar change in the epithelium on the posterior edge of ciliary body. There is adherence of the edges of the iridal leaflets to the anterior surface of the lens **(1pt.)** **(**posterior synechiae). **(1pt.)** The anterior chamber is collapsed but the iris is not adherent to the posterior side of the cornea. **(1pt.)**

MORPHOLOGIC DIAGNOSIS**:** Eye: Ocular dysgenesis **(1pt.)**, with retinal detachment and dyplasia, **(1pt.)** choroidal hypoplasia, retinolenticular adhesion, cataract, **(1pt.)** and anterior chamber collapse.

O/C: **(1pt.)**

WSC 2023-2024
Conference 11, Case 3.
Tissue from a calf
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MICROSCOPIC DESCRIPTION: Globe: A transverse section of the globe is submitted for examination, containing the anterior and part of the posterior segment, and lacks a full view of the retina and the optic nerve. **(1pt.)**

Throughout the globe but most prominently in the retina **(1pt.)**, small to medium-caliber vessels are partially to totally occluded by fibrinocellular thrombi **(1pt.)** throughout which are embedded low numbers of necrotic neutrophils **(1pt.)** and cellular debris. The wall of these vessels is fragmented, contains bright pink protein and necrotic smooth muscle cells, **(1pt.)** infiltrating neutrophils, and cellular debris **(1pt.)** (vasculitis) **(1pt.)**. Occasionally, thrombi contain colonies of small bacilli. **(1pt.)** There is hemorrhage and edema around affected vessels within the retina **(1pt.)** , with loss of retinal architecture, a decrease of nuclei within the inner plexiform layer, and occasional karyorrhexis of neurons within this layer. **(1pt.)** The retina is detached with hypertrophy of the RPE, however, the and the photoreceptor layer is intact. Similar thrombosed vessels are in the choroid and uvea. **(1pt.)** There is an accumulation of neutrophils within the drainage angle. around capillaries in the limbal cornea, and there are low numbers of neutrophils and fibrin free within both the anterior and posterior chambers. **(1pt.)** There is diffuse corneal edema. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Globe, retina, choroid, uvea: Vasculitis, necrotizing, **(1pt.)** multifocal, with fibrin thrombi **(1pt.)** and colonies of coccobacilli **(1pt.)** and diffuse mild neutrophilic chorioretinitis and anterior uveitis.

CAUSE: *Hemophilus somni* **(2pt.)**

O/C: **(1pt.)**

WSC 2023-2024
Conference 11, Case 4.
Tissue from a cat.

MICROSCOPIC DESCRIPTION: A section of globe with overlying palpebra is submitted for examination. The superficial cornea **(1pt.)** is diffusely expanded by large nodular aggregates of epithelioid macrophages **(2pt.)**, and fewer lymphocytes **(1pt.)**, plasma cells and neutrophils **(1pt.)**. One nodule infiltrates the sclera **(1pt.)** and the adjacent drainage angle **(2pt.)** and adjacent ciliary body and iris. **(1pt.)** The drainage angle is occluded on this side.. **(1pt.)** There is diffuse mild edema **(1pt.)**, which becomes severe in an area of rupture of Descemet's membrane in the center of the cornea. **(1pt.)** There is mild lymphocytic inflammation within the overlying palpebra. **(1pt.)**

There are numerous pigment-laden macrophages within the iris. **(1pt.)**

MICROSCOPIC DIAGNOSIS: Eye: Keratoconjunctivitis **(1pt.)**, uveitis **(1pt.)**, and scleritis **(1pt.)**, granulomatous **(1pt.)**, multifocal to coalescing, severe.

CAUSE: Mycobacterium sp. **(2pt.)** (there are a couple of possible species in the cat, so I'll give full credit just for the genus here.)

O/C: **(1pt.)**