

ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2010 – Eye Case 7

Tissue from a dog

- The main findings in a section of globe include a black pigmented (melanin) mass involving the uvea with secondary changes in other intraocular structures. [1] The lens is in backwards (artifact of trimming).]
- The pigmented mass is composed of sheets of melanin-containing cells that efface the superior uvea and filtration angle and expand into the adjacent sclera. [2] The filtration angle and trabecular meshwork that is not effaced is collapsed and infiltrated by round melanin-containing cells that extend on the corneal endothelium. [3]
- The mass is composed of a uniform population of polygonal cells of variable sizes and fusiform cells that both contain intracytoplasmic pigment (melanin). [4] Large, spherical cells with an abundance of melanin pigment are scattered throughout the mass and arranged in small aggregates. [5] No mitotic figures are apparent.
- Areas of hemorrhage are present in the mass and proteinaceous fluid, fibrin and blood are present in the anterior chamber (hyphema). [6]
- The pupillary margin of the iris is folded inward and is adhered to the posterior surface of the inferior iris (entropion uveae). [7] A thin fibrovascular membrane extends along the anterior surface of the iris and on the inner aspect of the peripheral cornea (preiridal fibrovascular membrane). [8]
- The vitreous body has an eosinophilic appearance due to an accumulation of proteinaceous fluid (plasmoid vitreous.) [9] Blood and pigmented cells from the mass are present in the vitreous chamber.
- The sensory retina is diffusely detached [10]. There is marked degeneration of the superior and inferior peripheral retina with loss of all layers. [11] Changes associated with retinal detachment included doming and rounding of retinal pigment epithelial cells with detachment into the subretinal space. [12]
- Changes in the lens includes liquefaction of the cortex with vacuolation, [13] some mineralization [14] and the presence of a few Morgagnian globules. Lens epithelial cells extend along the posterior lens capsule. [15]
- Limbal, episcleral and scleral vessels are prominent [16] with extension of vessels into the corneal stroma (neovascularization). [17] The corneal stroma is infiltrated by neutrophils (keratitis). [18] The conjunctiva is congested and edematous.

Morphologic Diagnosis(es): Anterior uveal benign melanoma (melanocytoma), cataract, preiridal fibrovascular membrane, entropion uveae, hyphema, plasmoid aqueous, plasmoid vitreous, retinal detachment and degeneration, neutrophilic keratitis with neovascularization, conjunctival congestion [19-20]