WSC 2026-2027
Conference 5, Case 1
Tissue from a horse.

MICROSCOPIC DESCRIPTION: Thyroid gland **(1pt.)**: Expanding and effacing 50% **(1pt.)** of the thyroid parenchyma within the submitted sections and entrapping occasional colloid-filled thyroid follicles**(1pt.)** is an unencapsulated, multilobulated, moderately cellular, poorly demarcated infiltrative neoplasm**(1pt.)** composed of polygonal cells **(1pt.)** arranged in variably sized nests and packets **(1pt.) o**n a fine fibrovascular stroma. **(1pt.)** Neoplastic cells often palisade along the stroma. **(1pt.)** Neoplastic cells have indistinct cell borders with a moderate amount of pale eosinophilic, granular cytoplasm **(1pt.)** which occasionally contains a clear vacuole. **(1pt.)** Nuclei are round to oval with finely clumped chromatin and 1-3 indistinct nucleoli**(1pt.)**. Anisocytosis and anisokaryosis are mild, mitoses are rare**(1pt.)**, and there is multifocal single-cell necrosis. Entrapped follicles are variably ectatic, lined by attenuated epithelial cells, and filled with abundant eosinophilic secretory product (colloid). **(1pt.)** In areas of follicular entrapment, there are islands of enlarged follicular cells with abundant pink granular cytoplasm (oxy, "Hurthle" cells).

MORPHOLOGIC DIAGNOSES: Thyroid gland: C-cell tumor (C-cell adenoma OK) **(4pt.)**

NAME TWO APPROPRIATE IMMUNOHISTOCHEMICAL STAIN: Chromagranin A, Synaptophysin. (Thyroglobulin is an okay choice if you are trying to exclude a follicular neoplasm. TTF-1 will not differentiate between follicular and C-cells, so it is not a good choice.) **(3pt.)**

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

WSC 2026-2027
Conference 5, Case 2
Tissue from a dog.

MICROSCOPIC DESCRIPTION: There are inflammatory changes in every segment of the globe. The iris and ciliary body are markedly expanded **(1pt.)** and/or effaced by a dense inflammatory infiltrate composed of large numbers of plasma cells, lymphocytes **(1pt.)**, and macrophages, with fewer neutrophils. There is a thick pre-iridial fibrovascular membrane and a thinner post-iridial fibrovascular membrane **(1pt.)**, which is infiltrated by the previously described inflammatory cells and covered by a layer of foamy macrophages with fewer lymphocytes and plasma cells enmeshed in a fibrinous matrix. The inflammatory infiltrate has resulted in significant pigmentary dispersion within the iris. The inflammatory infiltrate occludes the drainage angle **(1pt.)** bilaterally and extends along the proximal choroid to the level of the peripheral retina. **(1pt.)** The inflammatory infiltrate also invades the sclera, particularly around blood vessels. **(1pt.)**The anterior segment is filled with abundant pink eosinophilic protein and mixed inflammatory cells, as previously described. There is posterior synechiation **(1pt.)** with attachment of the iris to the lens capsule (which has been artifactually separated during processing). There is diffuse vascularization of the cornea, infiltration by low numbers of lymphocytes, plasma cells, and macrophages, and multifocal edema. **(1pt.)** There is focal rupture of the lens capsule **(1pt.)** with infiltration of moderate number of macrophages into the lens, which form discrete aggregates. There is multifocal balloon cell formation and Morgagnian globules within the lens stroma,**(1pt.)** and extrusion of aggregates of lens protein within the anterior and posterior chambers. The posterior segment is filled with eosinophilic proteinaceous fluid **(1pt.)** and free-floating aggregates of moderate numbers of viable and necrotic neutrophils and fewer macrophages admixed with cellular debris and free floating lens protein; lens protein is often phagocytized by macrophages **(1pt.)** The retina is detached **(1pt.)** except at the optic disc ("morning glory" detachment). The anterior surface of the retina is covered by a layer of neutrophils and macrophages that mix with cellular debris, polymerized hemorrhage, and fibrin. The detached retina is atrophic **(1pt.)** with marked loss of ganglion cells, thinning of the inner plexiform layer, and marked loss of nuclei and blending of the inner nuclear layer with the outer nuclear layer. Rods and cones are atrophic, and the underlying retinal pigmented epithelium (RPE) is hypertrophic in areas of retinal detachment. **(1pt.)** There is a small amount of a pale eosinophilic fluid beneath the detached retina. The optic nerve is covered by a thick layer of neutrophils, macrophages, lymphocytes, and plasma cells and vessels within the atrophic retina. Blood vessels within the atrophic retina and optic disc are cuffed by low to moderate numbers of lymphocytes and plasma cells and fewer macrophages and neutrophils. **(1pt.)** The conjunctiva is multifocally expanded by low to moderate numbers of largely perivascular lymphocytes.

MORPHOLOGIC DIAGNOSIS: Eye: Panophthalmitis **(1pt.)** and iridocyclitis **(1pt.)**, lymphoplasmacytic and histiocytic, chronic, diffuse, marked, with posterior synechia, phacoclastic uveitis and retinal detachment with atrophy

NAME THE CONDITION: Asymmetric uveitis (phacoclastic uveitis OK) **(1pt.)**
O/C: **(1pt.)**

WSC 2026-2027
Conference 5 Case 3.
Tissue from a cat.

MICROSCOPIC DESCRIPTION: Adrenal gland **(1pt.)**: Expanding the adrenal gland, compressing the overlying cortex **(1pt.)** and occupying approximately 80% of the submitted section, there is a nodular, encapsulated, expansile, moderately cellular and poorly demarcated neoplasm. **(1pt.)** The nodule is composed of polygonal **(1pt.)** epithelial cells **(1pt.)** arranged in nests and packets on a fine fibrovascular stroma, which, when separated by blood filled spaces, form thick trabeculae **(1pt.)** ranging up to 7 cells thick **(1pt.)**. There are wide blood-filled spaces between trabeculae of neoplastic cells. Neoplastic cells have distinct cell borders with a moderate amount of finely vacuolated cytoplasm. **(1pt.)** Nuclei are round with coarsely stippled chromatin and 1-2 prominent eosinophilic nucleoli. **(1pt.)** Anisocytosis and anisokaryosis is minimal, and mitoses average 1 per 2.37mm^2 fields. **(1pt.)**There is atrophy **(1pt.)** and loss of cells of the overlying compressed zona reticularis and fascicularis with stromal collapse. **(1pt.)** There is ectasia and congestion of blood vessels in the overlying cortex. **(1pt.)** The adrenal medulla is not evident in this section. **(1pt.)** Adjacent to dilated blood vessels within the neoplasm and the overlying cortex, there are low to moderate numbers of siderophages. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Adrenal gland: Adrenocortical adenoma. **(3pt.)**

Name the most likely elevated hormone: Aldosterone (hyperaldosteronism is more common than hypercortisolism in cats with adrenocortical adenomas.) **(1pt.)**
O/C: **(1pt.)**

WSC 2026-2027
Conference 5, Case 4.
Tissue from a pig.

MICROSCOPIC DESCRIPTION: Eye: A horizontally sectioned transverse section of the globe is submitted for examination. There is craniocaudal flattening of the anterior segment **(1pt),** which is filled with abundant pink proteinaceous material containing abundant polymerized fibrin **(1pt)** and large numbers of degenerate neutrophils **(1pt)** , with fewer macrophages, lymphocytes, and fewer plasma cells. The cornea is edematous and infiltrated by low to moderate numbers of viable and degenerate neutrophils primarily at the limbus. **(1pt)** The iris is adhered to the inner aspect of the cornea. **(1pt)** The iris is markedly expanded by edema **(1pt)** and moderate numbers of macrophages with fewer lymphocytes and plasma cells, and the cranial and caudal surfaces are carpeted by a layer of degenerate neutrophils up to five cells thick. **(1pt)** The lens is positioned behind the ciliary body. The vitreous contains abundant proteinaceous exudate with abundant polymerized fibrin **(1pt)** , multifocal hemorrhage, as well as innumerable degenerate neutrophils **(1pt)** with fewer macrophages admixed with moderate amounts of cellular debris. The exudate is adherent to the inner surface of the detached retina **(1pt)** and in areas of retinal detachment, the underlying retinal pigmented epithelium **(1pt)** . There is marked retinal atrophy **(1pt)** with vacuolation and loss of nuclei within the ganglion and inner nuclear layers **(1pt)** , and there is atrophy of the rods and cones **(1pt)**. Within the retina, the walls of vessels are eosinophilic with emigrating neutrophils and cellular debris in the wall (vasculitis). These vessels are surroudnded by small to moderate amounts of polymerized fibrin. The optic nerve is not evident in this section.

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MORPHOLOGIC DIAGNOSIS: Eye: Endopthalmitis **(1pt)** , fibrinosuppurative **(1pt)** , subacute, diffuse, severe, with vasculitis, anterior synechiae, retinal detachment and rare intra- and extracytoplasmic cocci. .**(1pt)**

CAUSE: *Streptococcus suis*, *Glasserella parasuis*, or *Mycoplasma hyorhinis* **(2pt)**

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