

WSC 2023-2024  
Conference 10, Case 1  
Tissue from a beta.

**MICROSCOPIC DESCRIPTION:** Kidney: Effacing 80% of the section of kidney **(1pt)** and infiltrating the adjacent ovary is an unencapsulated, infiltrative, poorly demarcated, moderately cellular neoplasm **(1pt)** composed mesodermal and endodermal cells. **(1pt)**. The predominant cellular population are mesenchymal cells **(1pt)** arranged in long streams and bundles, rosettes, and pseudorosettes. **(1pt)** These cells have indistinct cell borders, a small to moderate amount of finely fibrillar cytoplasm, and irregularly round nuclei with finely stippled chromatin and with few mitotic figures. **(1pt)** There is a focus of well differentiated bone within the neoplasm. More commonly at the periphery of the neoplasm, neoplastic cells assume an epithelial morphology **(1pt)** forming variably sized ectatic tubules lined by a single layer of columnar cells recapitulating gut. **(1pt)** The stroma is infiltrated by low to moderate numbers of lymphocytes, macrophages and rare granulocytes. **(1pt)** The neoplasm is surrounding by a rim of normal kidney in which tubules are markedly ectatic. The adjacent ovary is compressed and contains atrophied misshapen ova. **(1pt)** There is a marked accumulation of bright pink eosinophilic protein consistent with folliculodegeneration and stasis. **(1pt)**

The wall of the stomach is markedly expanded by abundant fibrous connective tissue, scattered foci of aggregated macrophages and several well-defined granulomas. **(1pt)** Macrophages both within the areas of granulomatous inflammation and centrally within the granulomas often contain a large cytoplasmic vacuole containing amphophilic birefringent cellular debris. **(1pt)** Granulomas are composed of low numbers of lamellated macrophages **(1pt)** and few lymphocytes and granulocytes (1pt). The fibrous connective tissue has formed an adhesion to adjacent loops of bowel, which contains similar but larger granulomas. **(1pt)**

**MORPHOLOGIC DIAGNOSIS:** 1. Kidney, ovary : Teratoma. **(3 pt)**.  
2. Stomach, omentum: Granulomas, multiple with intracellular foreign material. **(2pt)**

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Conference 10 Case 2

Tissue from a red abalone.

(Not grading out this slide – there aren't enough points, and I don't know anything about gastropods).

**MICROSCOPIC DESCRIPTION:** Intestinal and esophageal: There is multifocal necrosis of enterocytes with pyknosis and karyorrhexis. Multifocally, the epithelial cells are distended up to 60um by epithelial inclusions contain 0.5um punctate basophilic organisms. There are numerous hemocytes adjacent to loops of gut containing organisms; these hemocytes occasionally invade the adjacent intestine and form small aggregates.

Epithelial cells within the renal papilla contain low numbers of protozoal meronts and schizonts.

**MORPHOLOGIC DIAGNOSIS:** 1. Gut: Enteritis, hemocytic and necrotizing, diffuse, moderate with intracytoplasmic rickettsiae.

2. Renal papilla, epithelium: Apicomplexan meronts, and schizonts, segmental, numerous.

**CAUSE:** *Xenohaliotis californiensis*

**NAME THE CONDITION:** Abalone withering syndrome (abalone rickettsiosis)

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Conference 10, Case 3.

Tissue from a harbor porpoise.

**MICROSCOPIC DESCRIPTION:** Lung: There are two sections of lung that demonstrate chronic changes associated with the presence of two distinct type of nematodes within the airways and pulmonary parenchyma.

The bronchioles contain multiple cross sections of a larval nematode parasite **(1pt.)** measuring up to 1.5mm in diameter, with a cuticle with irregularly spaced cuticular ridges, polymyarian-coelomyarian musculature, a pseudocoelom, prominent lateral cords, and a small intestine with several uninucleate cells with phagocytized hematin pigment. **(1pt.)** The bronchiolar lumen contains small amounts of hemorrhage, sloughed epithelium, and cellular debris and numerous 0.5x1um bacilli. **(1pt.)** The adjacent airway epithelium is markedly hyperplastic **(1pt.)**, with foci of fibrosis in the proximal layers, and is infiltrated by large number of lymphocytes **(1pt.)**, plasma cells **(1pt.)**, and macrophages **(1pt.)**. In one section, a large polyp of fibrous connective tissue extends into and largely occludes the bronchiolar lumen (bronchiolitis obliterans). **(1pt.)** There is partial to complete occlusion of several other bronchioles by large multinodular areas of fibrosis with extensive mineralization, **(1pt.)** and remnant lumina contain abundant cellular debris. The fibrosis often extends into the adjacent parenchyma, extending between cartilage plates into the alveolar interstitium. Large areas of the parenchyma are effaced by fibrosis populated by plump fibroblasts, moderate numbers of lymphocytes and plasma cells, scattered crystalline mineral and congested vessels. **(1pt.)** There is marked dilation of terminal bronchioles, alveolar ducts and alveolar sacs (emphysema). **(1pt.)** Within one of the two sections, there is a cluster of adult metastrongyle nematodes. **(1pt.)** Females measure 400um in diameter, males 150um. The nematodes have a thin smooth cuticle, a pseudocoelom, polymyarian-coelomyarian musculature **(1pt.)**, a large intestine with uninucleate epithelial cells with phagocytized hematin and multiple cross section of either a testis containing sperm, or a uterus containing embryonated or larvated metastrongyle eggs. **(1pt.)** There is mild to moderate arteriolar smooth muscle hyperplasia and arterioles are surrounded by lamellae of fibrous connective tissue. **(1pt.)**

**MORPHOLOGIC DIAGNOSIS:** Lung: Bronchopneumonia **(1pt.)**, granulomatous **(1pt.)** and eosinophilic, **(1pt.)** chronic, diffuse, severe, with fibrosis, mineralization, and intrabronchiolar and parenchymal larval and adult metastrongyles. **(1pt.)**

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

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Conference 10, Case 4.

Tissue from a bald eagle

**MICROSCOPIC DESCRIPTION:** Liver: Embedded in the hepatic parenchyma **(1pt.)** , there are numerous trematodes **(1pt.)** measuring 400x500um **(1pt.)** with a thin tegument **(1pt.)** , a spongy body cavity, suckers, paired ceca which often contain dark brown hematin pigment, **(1pt.)** numerous vitellarian glands **(1pt.)** , and cross sections of sperm[-filled testes **(1pt.)** and uterus **(1pt.)** containing ova and/or 24umx18um eggs with a brown operculated eggs. **(1pt.)** The eggs are often found alongside the trematode as well within the cystic area and a few have escaped into the surrounding parenchyma. The trematode is surrounded by a few layers of lamellated collagen and fibroblasts. **(1pt.)** Adjacent hepatic cords are disassociated **(1pt.)** with hemorrhage, small microgranulomas containing black hematin pigment (flake exhaust) **(1pt.)** and moderate numbers of macrophages, **(1pt.)** multinucleated foreign body macrophages, **(1pt.)** eosinophils, **(1pt.)** lymphocytes, and plasma cells with small amounts of fibrosis. Within portal areas there are small numerous of similar inflammatory and mild biliary hyperplasia

**MICROSCOPIC DIAGNOSIS:** Liver: Hepatitis, granulomatous **(1pt.)** and eosinophilic **(1pt.)** , diffuse, mild to moderate, with numerous intraparenchymal trematodes and eggs **(1pt.)**

**ETIOLOGIC DIAGNOSIS:** Hepatic trematodiasis (no, you don't need to memorize raptor flukes). **(1pt.)**

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