WSC 2024-2025
Conference 17, Case 1
Tissue from rhesus macaque.
(There is mild variation in slides from this case.)

MICROSCOPIC DESCRIPTION: Liver: There ae two processes ongoing in this section of liver. Diffusely, the epithelium of the common bile ducts and intrahepatic bile ducts is moderately hyperplastic **(1pt.)** and thrown into folds. There is multifocal necrosis and sloughing of epithelial cells into the lumen. **(1pt.)** The wall of the bile ducts are expanded by moderate numbers of lymphocytes and plasma cells. **(1pt.)** There is marked ductular reaction throughout the section and portal areas are further expanded by fibrous connective tissue **(1pt.)** which bridges between portal areas **(1pt.)** and low numbers of lymphocytes, plasma cells, macrophages and fewer neutrophils. **(1pt.)** Randomly scattered throughout the hepatic parenchyma (and occasionally within portal areas replete with proliferating bile ducts), there are numerous granulomas **(1pt.)** measuring up to 200um in diameter **(1pt.)** . Granulomas are composed of spindled epithelioid macrophages **(1pt.)** with moderate amounts of vacuolated eosinophilic cytoplasm. **(1pt.)** Low to moderate numbers of lymphocytes ae scattered through the granulomas. The hepatocytes at the border of the granulomas are compressed **(1pt.)** Throughout the section, sublobular and portal lymphatics and the lamina propria of the common bile duct are mildly edematous.

MORPHOLOGIC DIAGNOSIS: 1. Liver: Cholangiohepatitis **(1pt.)** , proliferative **(1pt.)** and lymphocytic, chronic diffuse, moderate, with bridging portal fibrosis. **(1pt.)**
2. Liver: Hepatitis, granulomatous, multifocal, marked. **(1pt.)**

CAUSE: *Enterocytozoon bienusi* **(2pt.)** and *Mycobacterium avium* **(2pt.)**

O/C: (Point is awarded for describing two independent processes.) **(1pt.)**

WSC 2024-2025
Conference 17, Case 2
Tissue from a raccoon dog.

MICROSCOPIC DESCRIPTION: Eye with palpebra: Within the palpebral fissure **(2pt)** and beneath the palpebra, there are large aggregates of necrotic and fewer neutrophils **(2pt)** admixed with fewer numbers of debris-laden macrophages **(1pt)** and abundant cellular debris **(1pt)**, fibrin and enmeshed bacterial colonies **(1pt)**. Within the adjacent palpebra, the mucosal epithelium is diffusely hyperplastic **(2pt)** and multifocally eroded **(2pt)**. There are moderate numbers of neutrophils, **(1pt)** lymphocytes and plasma cells **(1pt)** with fewer macrophages within the mildly edematous **(2pt)** and moderately congested submucosal fibrous connective tissue, adipose tissue, and underlying lacrimal glands. **(1pt)** The globe is within normal limits.

MORPHOLOGIC DIAGNOSIS : Palpebra, conjunctiva: Conjunctivitis **(1pt)**, neutrophilic **(1pt)** and lymphoplasmacytic **(1pt)**, subacute, diffuse, marked.

CAUSE: HPAI (not worth points, because I think that it is very difficult to get there from here.

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

WSC 2024-2025
Conference 17, Case 3.
Tissue from an ox.

MICROSCOPIC DESCRIPTION: Haired skin: The epidermis is intact, and diffusely and mildly hyperplastic **(1pt.)**. The keratinocytes are markedly swollen by intracytoplasmic edema (ballooning degeneration) **(1pt.)**.. Numerous keratinocytes are multinucleated (viral syncytia) **(1pt.)**.. Numerous keratinocyte nuclei, in both uni- and multinucleated cells contain eosinophilic smudgy intranuclear viral inclusions **(1pt.)**. that peripheralize the chromatin. There is multifocal and frequent apoptosis of one or more keratinocytes **(1pt.)**., and in these areas, defects are filled by large amounts of vacuolated eosinophilic edema fluid, apoptotic shrunken cells, and one or more neutrophils, admixed with abundant cellular debris (vesicle). **(2pt.)**. Intercellular edema makes intercellular bridges between keratinocytes prominent. Similar cytoplastic changes (inclusions and syncytia) are also present (although less frequent) in follicular epithelium and reserve cells of sebaceous glands. **(1pt.)**. There is mild diffuse compact orthokeratotic hyperkeratosis and multifocal pustule formation **(1pt.)**. with an overlying serocellular crust **(1pt.)**.with hemorrhage and fibrin. There is marked diffuse edema **(1pt.)**. within the superficial and deep dermis, and infiltation of large numers of lymphocytes **(1pt.)**., plasma cells **(1pt.)**., neutrophils **(1pt.)**. (which predominate in area of epidermal necrosis) and macrophages . There is mild diffuse dermal fibrosis with diffuse dilation of apocrine glands. **(1pt.)**. Arterioles are tortuous and walls are thickened. **(1pt.)**. At one edge of the section, there is a focal granuloma with numerous lamellations of epithelioid macrophages surrounding a piece of plant material.

MORPHOLOGIC DIAGNOSIS: Haired skin: Dermatitis, necrotizing **(1pt.)**., subacute, diffuse, severe, with epithelial viral syncytia, intranuclear and viral inclusions, **(1pt.)**. corneal pustules, mixed dermal inflammation, and edema.

CAUSE: *Bovine herpesvirus-2* **(2pt.)**

NAME THE DISEASE: Pseudolumpy skin disease **(1pt.)**.

WSC 2024-2025
Conference 17 Case 4.
Tissue from a scid mouse.

MICROSCOPIC DESCRIPTION: Leg: The tibiotarsal joint **(1pt.)** is markedly expanded by a combination of proliferative changes of the tendon sheath, synovium, and bone. The flexor tendon sheath **(1pt.)** is markedly expanded up to 1mm **(1pt.)** by abundant maturing granulation tissue **(1pt.)** with numerous fibroblasts, collagen, and an infiltrate of numerous neutrophils **(1pt.)** admixed with cellular debris and fewer lymphocytes and plasma cells. **(1pt.)** The lumen of the tendon sheath contains moderate amounts of sloughed synovium, clumps of bluish ground substance and moderate numbers of hyperchromatic synoviocytes and necrotic neutrophils. **(1pt.)** The interface between the tendon sheath and underlying synovium is effaced by maturing granulation tissue **(1pt.)** that infiltrates the lamellar bone of the distal tibia **(1pt.)**, and contains occasional osteoclasts within scalloped edges at the point of infiltration. **(1pt.)** The proliferating synovium covers 50% of the flexor tendons surface **(1pt.)** within the synovial space, and the remainder of the synovium surrounding the joint is mildly hyperplastic **(1pt.)** and periosteum of the adjacent bone is hyperplastic. Dorsal to the proliferating synovium on the anterior surface, are well-formed trabeculae of periosteal new bone **(1pt.)** with a focal area of cartilage. **(1pt.)** There is moderate hyperplasia of the bone marrow.

MORPHOLOGIC DIAGNOSIS: Tarsal joint: Tenosynovitis **(1pt.)**, proliferative **(1pt.)** and neutrophilic **(1pt.)**, chronic, diffuse, severe with focal bony lysis and periosteal new bone growth. **(1pt.)**

CAUSE: *Borrelia burgdorferi*. **(1pt.)** (This didn't get a lot of points since you can't see them on HE and this was an experimental infection).

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