WSC 2025-2026
Conference 17, Case 1
Tissue from a Indian ringneck parakeet.

MICROSCOPIC DESCRIPTION: Bronchus and parabronchus **(1pt.)**: Mild autolysis hinders histologic evaluation. One section of parabronchus is submitted for examination. The lining epithelium contains numerous multinucleated viral syncytia **(1pt.)** projecting into the lumen and ranging up to 40um **(1pt.)** in diameter with up to 50 nuclei. **(1pt.)** Nuclei often contain a single homogenous eosinophilic smudgy viral inclusion that peripheralizes the chromatin. **(1pt.)** The lumen of the airways in this section contains sloughed epithelium, small numbers of macrophages and heterophils admixed with cellular debris. **(1pt.)** There is moderate edema of bronchial and parabronchial submucosa, and scattered aggregates of lymphocytes and plasma cells. **(1pt.)** A small fragment of pulmonary parenchyma is available for examination and is diffusely autolytic. Several sections of air sacs and oviduct are also present on the slide and contain few viral syncytia as previously described. **(1pt.)**

There are scattered small areas of hepatocellular necrosis **(1pt.)** which are present and associated with intracellular spores. **(1pt.)** There is no apparent inflammation in this section.

Several other sections of tissue are moderately autolytic but demonstrate no significant clinical changes, to include kidney, ovary, skeletal muscle and crop.

MORPHOLOGIC DIAGNOSIS: Bronchus and parabronchus, air sacs: Bronchitis, parabronchitis, and airsaculiltis, **(1pt.)** necrotizing, diffuse, mild with numerous epithelial herpesviral syncytia **(1pt.)**and intranuclear viral inclusion. **(1pt.)**
2. Oviduct: Endometritis, necrotizing, multifocal, minimal to mild, with epithelial herpesviral syncytia and intranuclear viral inclusion. **(1pt.)**
3. Liver, hepatocytes: Necrosis **(1pt.)**, multifocal, with intracellular microsporidia. **(1pt.)**

CAUSE: Psittacid herpesvirus-3 (or -5) **(2pt.),** *Encephalitozoon hellum*

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

WSC 2025-2026
Conference 17, Case 2
Tissue from a duckling.

MICROSCOPIC DESCRIPTION: Eye, anterior segment: **(1pt.)** There is diffuse edema **(1pt.)**of the outer third of the corneal stroma **(1pt.)** with loss of spacing between keratocytes. **(1pt.)** The edema is even more profound in the inner 66%,**(1pt.)** with marked expansion between corneal lamellae and the formation of clear spaces. **(1pt.)** There is multifocal loss of stromal keratocytes **(1pt.)** scattered throughout the depth of the cornea. Low numbers of individualized and small aggregates of heterophils **(1pt.)** infiltrate the inner third of the corneal stroma. **(1pt.)** . There is diffuse loss of the corneal endothelium. **(1pt.)**The iris mildly expanded by infiltration by moderate numbers of lymphocytes **(1pt.)** and plasma cells **(1pt.)** with edema **(1pt.)** which surrounds and separates iridial myocytes.**(1pt.)** There is a section of morphologically normal peripheral retina and pecten.

MORPHOLOGIC DIAGNOSIS: 1. Cornea Edema **(1pt.)**, diffuse, marked with loss of stromal keratocytes **(1pt.)** and corneal endothelium. **(1pt.)**
2. Iris: Iritis **(1pt.)**, lymphoplasmacytic**(1pt.)**, subacute, diffuse, moderate with edema.

CAUSE: HPAI (H5N1) **(3pt.)**

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

WSC 2025-2026
Conference 17, Case 3.
Tissue from a crow.

MICROSCOPIC DESCRIPTION: Liver: Effacing over 50% of normal hepatic architecture **(1pt.)** and compressing adjacent hepatocytes are numerous variably sized, up to 5mm diameter, coalescing granulomas **(1pt.)**. Granulomas are composed of a necrotic central core of variably dense eosinophilic cellular and karyorrhectic debris **(1pt.)** surrounded by numerous epithelioid macrophages **(1pt.)** and multinucleated giant cell macrophages of the foreign body type **(1pt.)**, admixed with fewer heterophils, fibrin, and cellular debris, and further surrounded by hypertrophied, reactive fibroblasts and concentric lamellations of fibrous connective tissue **(1pt.)** admixed with numerous lymphocytes and plasma cells. **(1pt.)** Moderate numbers of 1x2 um amphophilic bacilli are present extracellularly within the central necrotic cores as well as within the cytoplasm of multinucleate giant cells. Diffusely between granulomas, hepatocytes are often compressed and atrophic **(1pt.)**, or surrounded and individualized by abundant fibrous connective tissue (fibrosis). **(1pt.)**

Focally, an ectatic bile duct **(1pt.)** contains a tangential section of an approximately 3mm x 1cm intraluminal adult **(1pt.)** trematode **(1pt.)** with multiple suckers **(1pt.)**, a thin outer tegument **(1pt.)** overlying a band of somatic musculature, a parenchymatous matrix , a testis with spermatocytes and spermatids, and a uterus with numerous, asymmetrical, dark yellow-brown, 100 x 40 µm, singly operculated, thick-shelled eggs **(1pt.)** containing miracidia. There is mild biliary hyperplasia adjacent to this bile duct.

MORPHOLOGIC DIAGNOSIS: Liver: Granulomas **(1pt.)**, multifocal to coalescing, marked, with moderate numbers of intrahistiocytic and extracellular acid-fast bacilli **(1pt.)**
2. Bile duct: Adult trematode. **(1pt.)**

CAUSE(S): *Mycobacterium* sp., some type of bile duct fluke (if you know which flukes live in the bile ducts of crows – good for you!) **(2pt.)**

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

WSC 2025-2026
Conference 17, Case 4.
Tissue from an Oriental magpie robin.

MICROSCOPIC DESCRIPTION: Joint with multiple long bones and adjacent soft tissue: Multifocally effacing the bone marrow **(1pt)** and medullary trabeculae of the hematopoetic bone **(1pt)**, and multifocally extending though the multifocal lytic lamellar bone **(1pt)**, there is an infiltrate of innumerable largely degenerate and fewer viable heterophils **(1pt)**, with fewer epithelioid **(1pt)** and multinucleated foreign body and Langhans-type macrophages **(1pt)**, lymphocytes and plasma cells **(1pt)** which are regionally admixed with aggregates of abundant cellular debris, hemorrhage, dense fibrin **(1pt)** , and edema, and numerous large colonies of 1-2um coccobacilli. **(1pt)** Within the bone and in areas of cortical bone lysis, there are numerous areas of woven bone with a lining layer of osteoid and a single layer of prominent osteoblasts. **(1pt)** There is marked periosteal new bone formation in areas of cortical bone lysis. **(1pt)** In areas in which lamellar cortical bone is present, the bone is thin and the endosteal surface is markedly scalloped. The infiltrate extends through the lamellar bone at numerous points, in one sections lifting the articular cartilage off of the surface of the bone and into the periosteum **(1pt)**, lumen of the joint **(1pt)**, the joint capsule **(1pt)**, and adjacent tendons, atrophic skeletal muscle and air sacs. (1pt). in one section, there is an inflamed fibrovascular membrane overlying the articular cartilage (pannus) The skeletal muscle fibers are shrunken and surrounded by the infiltrating cellular exudate and mature collagen. **(1pt)** Regionally, remaining bone marrow is hyperplastic with profound granulocytic hyperplasia.

MORPHOLOGIC DIAGNOSIS : Long bone and joint: Osteomyelitis **(1pt)**, synovitis, tendonitis and rhabdomyositis, necrotizing, heterophilic and granulomatous **(1pt)**, multifocal to coalescing, chronic, diffuse, severe, with cortical and medullary bone lysis, **(1pt)** periosteal new bone growth, pannus, skeletal muscle atrophy, and numerous large colonies of coccobacilli. **(1pt)**

CAUSE: *Yersinia pseudotuberculosis* (many other bacteria OK). **(1pt)**