WSC 2023-2024
Conference 24, Case 1
Tissue from a flamingo

MICROSCOPIC DESCRIPTION: Multiple sections of the kidney and cross sections of arteries are submitted for examination.

There are changes at all levels of the nephron. Diffusely, glomeruli are globally **(1pt)** expanded by a homogenous waxy eosinophilic material **(1pt)** (amyloid.) **(1pt)** Amyloid also is present surrounding and compressing tubules, expanding the interstitium and the walls of arterioles.. **(1pt)** Multifocally, tubules are filled or effaced by with a basophilic material with admixed with cellular debris **(1pt)** which is surrounded by one to two layers of macrophages and lymphocytes. **(1pt)** There are small linear crystals within this material (urate crystals). **(1pt)** In other areas, tubules show one or more of the following: epithelial swelling with vacuolation (degeneration), **(1pt)** tubular epithelial pyknosis and sloughing (necrosis) **(1pt)**, and occasionally, cytoplasmic basophilia (regeneration) **(1pt)**. Tubules contain eosinophilic cellular debris, protein, and granular mineral. **(1pt)** Collecting ducts often contain static urates. There is multifocal areas of expansion of the interstitium by hemorrhage **(1pt)**, fibrosis **(1pt)**, and low to moderate numbers of lymphocytes, plasma cells, macrophages, and few heterophils. **(1pt)**

The sections of arteries have small amounts of amyloid scattered within the walls. .

MORPHOLOGIC DIAGNOSIS: 1. Kidney, glomeruli and renal arterioles: Amyloidosis **(2pt)**, global, diffuse, marked.
2. Kidney, tubules: Urate tophi, numerous. **(2pt)**
3. Kidney: Nephritis, interstitial, chronic and lymphocytic, diffuse, mild to moderate. **(1pt)**

NAME A LIKELY ASSOCIATED LESION: Bumblefoot **(1pt).**

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

WSC 2023-2024
Conference 24, Case 2
Tissue from a tortoise.

MICROSCOPIC DESCRIPTION: Cross section of leg **(1pt)**: Diffusely, the dense lamellar keratin **(1pt)** overlying the skin contains thick mats of basophilic **(1pt)** filamentous bacilli **(2pt)** as well as few colonies of cocci. **(1pt)** There is multifocal erosion and ulceration **(1pt)** of the epidermis, as segments of the epidermis exhibit coagulative necrosis **(2pt)** and are lost. In these areas, filamentous bacilli can be seen infiltrating the necrotic epithelium **(1pt)**and into the underlying edematous superficial dermis. **(2pt)** There is minimal inflammation of the superficial dermis (scattered heterophils and macrophages). **(1pt)** Occasionally, filamentous bacteria are seen invading vessels in the dermis. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Skin: Dermatitis, **(1pt)** necrotizing **(1pt)**, multifocal to coalescing, with numerous filamentous bacilli.**(1pt)**.

CAUSE: *Austwickia chelonae* **(1pt)**

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

WSC 2023-2024
Conference 23, Case 3.
Tissue from a crocodile

MICROSCOPIC DESCRIPTION: Skin: Centrally within this section of skin, there is full thickness necrosis **(1pt)** of the epidermis which extends into the underlying dermis. The epidermis is centrally replaced by a thick crust **(1pt)** of necrotic debris, viable and necrotic heterophils **(1pt)**, keratin, edema, hemorrhage, and few bacterial colonies. **(1pt)** The exudate spreads over the periphery of the lesion within the corneal epithelium and keratin. **(1pt)** At the periphery of the lesion, there is mild epithelial hyperplasia. **(1pt)** Within the stratum spinosum **(1pt)**, there is cytoplasmic swelling of keratinocytes with one or more pink cytoplasmic inclusions. **(1pt)** Nuclei contain one or more prominent basophilic nucleoli. **(1pt)** Occasionally, keratinocytes in this layer are apoptotic. **(1pt)** Beneath the ulcerated epithelium, there is a marked inflammatory exudate composed of large numbers of heterophils **(1pt)**, macrophages **(1pt)**, lymphocytes **(1pt)** and fewer plasma cells which at the periphery, extends into the basal layers of the epithelium. **(1pt)** **(1pt)**

MORPHOLOGIC DIAGNOSIS: Skin: Dermatitis, necrotizing **(1pt)** and proliferative **(1pt)**, focal, moderate with epidermal ballooning degeneration **(1pt)** and intracytoplasmic viral inclusions. **(1pt)**

CAUSE**: "Croc pox" (1pt)**

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

WSC 2023-2024
Conference 24, Case 4.
Tissue from a koala.

MICROSCOPIC DESCRIPTION: Lung: Multifocally, centered on and often effacing airways, **(1pt.)** there are poorly formed and expansive pyogranulomas **(2pt.)**. The inflammation is centered on cuneiform-shaped colonies of basophilic and slightly beaded bacterial colonies **(1pt.)** surrounded by a small amount of pink eosinophilic material (Splendore-Hoeppli) material. **(1pt.)** The bacterial colonies are surrounded by large numbers of viable and degenerate neutrophils **(1pt.)**, fewer macrophages, **(1pt.)** lymphocytes **(1pt.)** and plasma cells **(1pt.)**, and abundant cellular debris. The inflammatory infiltrate expands the lumen of some airways, entends into the adjacent aloveoli, and totally replaces others. **(1pt.)** Fibrosis **(1pt.)** of the adjacent alveolar parenchyma results in a loss of normal pulmonary architecture. Remnant alveoli are markedly ectatic ("traction emphysema") **(1pt.)** and contain large number of foamy macrophages **(1pt.)**and fewer neutrophils which reflux into airways that do not contain bacterial colonies and inflammation. There is frequent Type II pneumocyte hyperplasia **(1pt.)** in remnant alveoli. There is fibrosis **(1pt.)** and thickening of interlobular septa and the overlying pleura, with multifocal mesothelial hyperplasia.

MORPHOLOGIC DIAGNOSIS: Lung: Bronchopneumonia **(1pt.)**, pyogranulomatous **(1pt.)**, chronic, diffuse, severe, with colonies of filamentous bacilli. **(1pt.)**

CAUSE: Actinomyces sp. (Nocardia OK) **(2pt.)**

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