WSC 2020-2021 Conference 2, Case 1
Tissue from an ox.

MICROSCOPIC DESCRIPTION: Uterus, transverse section including placentome **(1pt.)**: There is diffuse necrosis of both maternal and fetal elements **(1pt.)** of the placentome with severe congestion and hemorrhage. The placentome is diffusely infiltrated by large numbers of viable and necrotic neutrophils **(1pt.)**, which efface fetal cotyledonary tissue, where they are admixed with abundant cellular debris, individualized necrotic trophoblasts and syncytiotrophoblasts **(1pt.)**and abundant hemorrhage (lytic necrosis) **(1pt.)**. Multifocally, and most prominently visible in fetal regions of the placentome, there are haphazardly arranged stacks **(1pt.)** of long chains of 1.5x6um bacilli **(1pt.)**. Most profoundly at the outmost edges of the placentome, there is diffuse necrosis of chorionic villar epithelium, infiltration of the chorionic villar stroma by neutrophils admixed with hemorrhage, and cellular debris, which also collects within the intervillar spaces. **(1pt.)** Moderate numbers of viable and necrotic neutrophils infiltrate the transition zone. **(1pt.)** Multifocally, vessel walls within the transition zone are expanded and effaced by brightly eosinophilic protein and contain necrotic cellular debris **(1pt.)** (vasculitis) **(1pt.)**. One large inflamed venule contains a luminal thrombus. There is marked edema **(1pt.)** of the transition zone and underlying endometrium. There is diffuse infiltrate of moderate numbers of neutrophilis within the endometrium, which are most numerous around endometrial glands. **(1pt.)** The lumina of endometrial glands often contain large numbers of viable and necrotic neutrophils**(1pt.)** admixed with cellular debris, and there is multifocal single cell necrosis on glandular epithelium. Aggregates of neutrophils are also found around vessels and around and within lymphatics within the endometrium.

MORPHOLOGIC DIAGNOSIS: Uterus and placenta: Placentitis **(1pt.)**, necrohemorrhagic **(1pt.)** and suppurative, diffuse, severe, with placental vasculitis **(1pt.)**, edema, mild suppurative endometritis, and numerous extracellular bacilli.

CAUSE: *Bacillus anthracis* **(2pt.)**

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

WSC 2020-2021 Conference 2, Case 2

Tissue from a guinea pig.

Colon: Segmentally and extensively **(1pt)**, there are areas of partial- to less commonly, full thickness **(1pt)** mucosal necrosis **(1pt)**. Within areas of necrosis, there is loss of glandular architecture **(1pt)** with infiltration of numerous viable and necrotic neutrophils **(1pt)** admixed with fewer macrophages and moderate amounts of cellular debris **(1pt)**. Overlying areas of necrosis and projection outward into the lumen and laterally along the adjacent less affected mucosa **(1pt)** is a thick fibrinonecrotic membrane **(1pt)** composed of necrotic neutrophils, and abundant cellular debris, fibrin, and hemorrhage with large numbers of robust bacilli and feed material. Scattered throughout necrotic areas and within the fibrinonecrotic membrane moderate numbers of 15-20um **(1pt)** amoebic trophozoites **(2pt)** both individually and in small aggregates which are round with 2-3um hyaline membrane **(1pt)** and moderate amounts of homogenous basophilic cytoplasm with numerous discrete clear vacuoles and occasionally pink granules. Occasionally, a nucleus with finely stippled chromatin is visible at the periphery **(1pt)** There is moderate submucosal edema and lymphatics are dilated and contain moderate numbers of lymphocytes with fewer neutrophils and rare histiocytes. **(1pt)** Low to moderate numbers of neutrophils occasionally exit small submucosal veins.

MORPHOLOGIC DIAGNOSIS: Colon: Colitis **(1pt)**, necrotizing **(1pt)**, multifocal, moderate with moderate numbers of extracellular amoebic trophozoites **(1pt)**.

CAUSE: *Entamoeba sp. (presumptively cobayae or muris)***(2pt)**

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

WSC 2020-2021
Conference 2, Case 3.
Tissue from a mouse

MICROSCOPIC DESCRIPTION: Uterus **(1pt).** A cross and tangential section of uterus us available for examination.

Cross section: Within the wall of the uterus, infiltrating the endometrium, there is a 6.5mm diameter, nodular, poorly demarcated, unencapsulated, infiltrative, cystic neoplasm. **(1pt.)** The neoplasm is composed of glands **(1pt.)** containing neoplastic polygonal epithelial cells surrounded by a homogenous brightly eosinophilic matrix **(1pt.)** and separated by pre-existing endometrial stroma **(1pt.)**. Neoplastic acini are lined by a 1-3 layer of cuboidal epithelium. **(1pt.)** Neoplastic cells have a moderate amount of basophilic cytoplasm and indistinct cell borders. **(1pt.)** Nuclei are irregularly round with finely stippled chromatin and 1-3 basophilic nucleoli. **(1pt.)** Mitoses average 1 per 2.37mm^2 field. **(1pt.)** Some glands are dilated (up to 2mm) **(1pt.)** and contain degenerating/necrotic neoplastic cells floating in basophilic wispy mucinous **(1pt.)** matrix. Surrounding endometrial stromal cells are separated and surrounding by eosinophilic matrix, and in areas of the neoplasm, and multifocal hemorrhage. **(1pt.)** Within the compressed endometrium at the periphery, glands are tortuous and vessels are congested. Mesothelial cells lining the uterus are prominent and cuboidal.

In the second section of uterus, a 5mm polypoid mass **(1pt.)** extends into the lumen. The mass is primarily composed of endometrial stroma **(1pt.)**, with interspersed dilated and tortuous glands, primarily at the periphery. The luminal surface of the polyp is ulcerated, and the distal end is diffuse necrotic. **(1pt.)** Glands throughout the remaining endometrium are mutlfocally cystic.

MORPHOLOGIC DIAGNOSIS: 1. Uterus: Yolk sac carcinoma. **(3pt.)**
2. Uterus: Endometrial stromal polyp. **(1pt.)**
3. Uterus, endometrium: Cystic endometrial hyperplasia, diffuse, mild. **(1pt.)**

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

WSC 2020-2021
Conference 2 Case 4.
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Uterus **(1pt)**: Multifocally, the uterine endometrium **(1pt)** assumes a characteristic layered appearance, replicating that of placentation. **(1pt)**. The deepest layer is composed of markedly dilated endometrial glands **(1pt)** lined by a single layer of ciliated **(1pt)** often attenuated cuboidal **(1pt)** cells with indistinct cell borders and a moderate amount of a granular eosinophilic cytoplasm. Glands are separated by a thin fibrovascular stroma **(1pt)**, and rare glands are present within the more superficial aspect of the underlying smooth muscle **(1pt)**. This layer is separated from the more superficial intermediate layer by a thick band fibrous connective tissue **(2pt)** with numerous activated stellate fibroblasts. The intermediate layer is composed of larger, tortuous open-ended glands **(1pt)** ranging up to 1mm in diameter, which are lined by tall ciliated pseudostratified **(1pt)** columnar epithelium with abundant finely vacuolated cytoplasm **(1pt)** , apical blebs **(1pt)** and midlevel nuclei. These glands are filled with a wispy blue amphophilic fibrillar mucus **(1pt)**, and vacuolated globules of bright eosinophilic protein **(1pt)**. The most superficial aspect of this layer as well as superficial endometrium is diffusely autolyzed. **(1pt).** The adjacent endometrium (NOT PRESENT ON ALL SLIDES) is lined by a single layer of columnar luteinized epithelium which forms papillary projections and acini, and the uterine glands are coiled and tortuous and contain moderate amounts of brightly eosinophilic secretory product.

MORPHOLOGIC DIAGNOSIS: Uterus: Hyperplasia, endometrial, pseudoplacentational, segmental. **(3pt)**

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