.WSC 2024-2025
Conference 13, Case 1
Tissue from a lion.

MICROSCOPIC DESCRIPTION: Oral mucosa: Extending in irregular downgrowths **(1pt)** from the multifocal ulcerated oral mucosa, there is an infiltrative, unencapsulated, moderately cellular, multilobular, poorly demarcated neoplasm **(2pt)**. The neoplasm is composed of keratinizing **(1pt)** squamous epithelium which is arranged in large islands **(1pt)**, nest, and trabeculae on a dense fibrous stroma. **(1pt)** Nests of neoplastic epithelium are have large areas of central necrosis **(1pt)** and dropout **(1pt)**with infiltration of large numbers of neutrophils admixed with individualized neoplastic keratinocytes and abundant cellular debris. **(1pt)** Neoplastic keratinocytes range up to 35um, are polygonal with abundant eosinophilic cytoplasm. **(1pt)** Nuclei are round, with finely stippled chromatin and a single prominent eosinophilic nucleolus. **(1pt)** Anisocytosis and anikaryosis is mild to moderate **(1pt)** with a mitotic rate of 5 per 2.37mm^2. **(1pt)** There is multifocal infiltration of the stroma beneath the mucosa by low to moderate numbers of lymphocytes, plasma cells and neutrophils. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Oral mucosa: Squamous cell carcinoma. **(5pt)**

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

WSC 2024-2025
Conference 13, Case 2
Tissue from a rat.

MICROSCOPIC DESCRIPTION: Sternum and adjacent skeletal muscle **(1pt)**. The marrow of the each of the submitted sternebrae is effaced **(1pt)** by a neoplastic cellular infiltrate that multifocally breaches the cortical bone **(1pt)** and extends into and effaces the skeletal muscle **(1pt)**. The neoplastic cells are arranged in sheets **(1pt)** on a pre-existent stroma. **(1pt).** Neoplastic cells are round **(1pt)** with a small to moderate amount of eosinophilic cytoplasm. **(1pt)** Nuclei are pleomorphic, round, reniform **(1pt)** or ring-shaped **(1pt)** with finely stippled chromatin and 1-3 basophilic nucleoli. **(1pt)** Mitoses average 14 per 2.37mm^2 field. **(1pt)** There are numerous macrophages **(1pt)** scattered through the infiltrate with granular cytoplasm and numerous lysosomes and apoptotic cellular fragments. **(1pt)** There is loss of cancellous bone within the medulla **(1pt)** and the cortical bone is multifocally lytic. **(1pt)** Intervertebral disks are intact. Neoplastic cells extend into the adjacent skeletal muscle, where they efface myocytes. Adjacent myocytes exhibit one of more of the following: (hypereosniphilia, contraction (atrophy), vacuolation and internatization of staellatie nuclei (degeneration) **(1pt)** and rarely, pyknosis (necrosis). **(1pt)**

MORPHOLOGIC DIAGNOSIS : Sternum and adjacent skeletal muscle: Myeloid leukemia. **(3pt)**

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

WSC 2024-2025
Conference 13, Case 3.
Tissue from an octopus.
(This case does not have enough points to grade out. The presence of the dicyemid mesozoans is a normal finding in this species.)

MICROSCOPIC DESCRIPTION: Renal appendage: Multifocally within the stroma of the renal appeandate, there are aggregates of viable and degenerate hemocytes which occasionally extendi into the overlying epithelium. One large hemolymph vessel contains large numbers of hemocytes, which extend through the hypereosinophilic wall into the adjacent stroma (vasculitis). Within the lumina of the renal appendage, there are large numbers of cross- and tangential sections of multicellular, vermiform mesozoan life stages. The mesozoans measure approximately 25 to 100 micrometers in diameter and consist of a central axial cell surrounded by a layer of ciliated peripheral cells. The calotte of the mesozians abuts the epithelium of the renal appendage. Several mesozoans contain one or more developing embryos and single cells (agametes or fertilized eggs). The developing embryos are multicellular, often organized into an elongate structure or forming a round to oval cluster of cells (vermiform and infusoriform embryos).

MORPHOLOGIC DIAGNOSIS: Renal appendage: Nephritis, hemocytic, multifocal, moderate, with vasculitis.

WSC 2024-2025
Conference 13, Case 4.
Tissue from a dog.
(Don't fret about no points for the octopus case; there are plenty of points here and it's stuff you should know.)

MICROSCOPIC DESCRIPTION: Ovary: There are three distinct neoplasms in this ovary **(1pt.)** as well numerous cysts measuring up to 2mm in diameter.

The first tumor, which occupies approximately 40% of the ovary and is associated with a small number of cysts primarily at one edge, is an unencapsulated, moderately cellular, expansile multilobular neoplasm **(1pt.)** composed of cuboidal epithelial **(1pt.)** cells with multifocally form variably sized cysts up to 1.5mm and extend into the cyst lumina forming large papillary**(1pt.)** projections. iIn other areas, the tumor is more solid. Neoplastic cells form cysts, papillary projections, and nests and packets of a variable fibrous stroma, which in areas of papillary projection is fine, but in more solid areas is dense and hyalinized. Neoplastic epithelium is cuboidal with indistinct cell borders and a moderate amount of amphophilic cytoplasm. Nuclei are irregularly round with finely stippled chromatin and 1-2 eosinophilic nucleoli. Anisocytosis and anisokaryosis are mild, and mitoses average 3 per 2.37mm^2 field. There is no definitive evidence of invasion, vascular invasion, or cellular criteria of malignancy. **(1pt.)**

The second neoplasm, effacing 30% of the ovary, is a densely cellular, infiltrative, unencaulated multilobular neoplasm. **(1pt.)** The neoplasm is composed of round germ **(1pt.)** cells arranged in sheets on a pre-existent stroma. Neoplastic germ cells have modeate amounts of a finely granular eosinophilic cytoplasm. Nuclei are round with finely stippled chromatin and 1-3 prominent eosinophilic nuclei. Anisokaryosis and anisocytosis is moderate with occasional nuclear pleomorphism with a mitotic rate of 5 per 2.37mm^2 fields. **(1pt.)** There are numerous macrophages **(1pt.)** scattered throughout this neoplasm with phagocytized cellular debris

The third neoplasm (the one surrounded by cysts and present away from the other two, is a multilobular, unencapsulated, infiltrative, moderately cellular, well-demarcated neoplasm. **(1pt.)** Neoplastic cells are arranged in tubules **(1pt.)** on a fine fibrovascular stroma. Rarely and regionally, the neoplastic cells form rosettes **(1pt.)**, with hyalinized material within the center of the rosette (Call-Exner bodies). **(1pt.)** Neoplastic cells are columnar with indistinct cell borders and a large amount of wispy fibrillar eosinophilic cytoplasm. Nuclei are largely basilar with coarsely stippled chromatin and 1-3 basophilic nucleoli. There is mild anisocytosis and anisokaryosis and mitoses average 2 per 2.37mm^2 field.

Within the remnant ovary, there are large cysts **(1pt.)**which are rarely lined by a single layer of cuboidal epithelium which measure up to 2mm. It is difficult to distinguish cysts of the epithelial neoplasm, potential surface epithelial substructures, cystic follicles, and perhaps even paraovarian cysts (so I won't try).

MORPHOLOGIC DIAGNOSIS: 1. Ovary: Papillary cystadenoma. **(2pt.)**
2. Ovary: Dysgerminoma. **(2pt.)**
3. Ovary: Granulosa cells tumor. **(2pt.)**
4. Ovary: Cysts, numerous.