

WSC 2014-2015, Conference 15

Case 1. Tissue from a mouse.

(This is not a very good descriptive slide, but an important entity, especially in primates and chinchillas. Learn the entity, but let's not spend time describing it, as your time is better spent just about anywhere else... There aren't many points to award here, anyway - a little pneumonia would have helped round out 20 points...)

MICROSCOPIC DESCRIPTION: Lung: Multifocally, alveolar capillary lumina contain and are often occluded by individual to rare clusters of irregularly round, uninucleate placental trophoblasts up to 75 um in diameter. Trophoblasts have abundant amphophilic, finely granular to microvacuolated cytoplasm and round to oval, 30-50 um diameter nuclei with clumped chromatin. Pulmonary arterioles and arteries often fibrin thrombi throughout which are admixed low numbers of erythrocytes. There are rare intravascular aggregates of neutrophils scattered throughout the section.

MORPHOLOGIC DIAGNOSIS: Lung, alveolar capillaries and pulmonary arterioles: Trophoblast emboli with arteriolar thrombi.

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Case 2. Tissue from a mouse.

MICROSCOPIC DESCRIPTION: Cerebrum: The cerebral gray and white matter of the rhinencephalon **(1pt.)** and telencephalon **(1pt.)** is bilaterally and asymmetrically **(1pt.)** infiltrated by a pleomorphic **(2pt.)** population of polygonal **(1pt.)** cells which efface preexistent structures, and cross the midline at multiple levels of the cerebrum. Infiltrating cells haphazardly are arranged in sheets and cords on pre-existent stroma. **(1pt.)** Cells range up to 50um in diameter **(1pt.)** with indistinct cell borders and abundant finely granular eosinophilic stroma **(1pt.)**. Nuclei are irregularly round with finely clumped chromatin and up to 3 small basophilic nucleoli. **(1pt.)** Mitotic figures range up to 5/hpf and are occasionally bizarre **(2pt.)**. There is marked anisokaryosis, nuclear pleomorphism, and multinucleated cells are common. **(1pt.)** Apoptotic cells are common **(1pt.)**, and there is an increased cell density adjacent to lateral ventricles or occasionally small capillaries **(1pt.)**. Scattered throughout the infiltrate, there are increased numbers of reactive astrocytes, as well as dark shrunken necrotic neurons **(1pt.)** which are occasionally surrounded by low numbers of astrocytes (satellitosis). The meninges are mildly expanded by a mild infiltrate of small lymphocytes. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Cerebrum, rhinencephalon and telecephalon: Gliomatosis cerebri **(3pt.)**
(Full credit for malignant astrocytoma or malignant mixed glioma)

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

Case 3. Tissue from a hamster.

MICROSCOPIC DESCRIPTION: Ovary **(1pt)**: The ovary is 99% effaced by encapsulated, expansile, nodular, moderately cellular, well demarcated neoplasm. **(1pt)** Neoplastic cells are arranged in nests and packets **(1pt)** on a fine fibrovascular stroma **(1pt)**. The cells are polygonal, **(1pt)** have a moderate amount of a finely vacuolated basophilic cytoplasm and indistinct cell borders. **(1pt)** Nuclei are round to oval with finely stippled chromatin and 1-3 small nucleoli. **(1pt)** Mitotic figures average 1-2 per hpf. **(1pt)** There are occasional apoptotic cells scattered through the neoplasm. **(1pt)** Rare, atrophic follicles are present at the edge of the neoplasm. The neoplasm is surrounded by a compression capsule with low to moderate numbers of lymphocytes and histiocytes. The ovarian bursa is infiltrated **(1pt)** with large numbers of neutrophils, histiocytes and lymphocytes and small numbers of cellular debris, and expanded by moderate amounts of granulation tissue **(1pt)** at the periphery. There is moderate atrophy of periovarian fat, and extramedullary hematopoiesis within other areas of periovarian fat. **(1pt)** The lumen of the uterus **(1pt)** as well as lumen and submucosal tissue of the oviduct **(1pt)** contains numerous viable and degenerate neutrophils admixed with cellular debris.

MORPHOLOGIC DIAGNOSIS: 1. Ovary: Granulosa cell tumor. **(3pt)**

2. Oviduct: Salpingitis, suppurative, diffuse, moderate. **(1pt)**

3. Uterus: Endometritis, suppurative, diffuse, mild. **(1pt)**

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

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Case 4. Tissue from a hedgehog.

MICROSCOPIC DESCRIPTION: Cerebrum: The meninges **(1pt.)** are expanded by an infiltrate of moderate numbers of macrophages **(1pt.)** and lymphocytes **(1pt.)** and fewer eosinophils, rare plasma cells and multinucleated foreign body macrophages **(1pt.)** which are often widely spaced. Separating the inflammatory cells are numerous 5-15 um **(1pt.)** diameter, round to elliptical, pale, extracellular yeasts **(1pt.)** with a 1 um thin wall and a 2-10 um thick, clear mucinous capsule **(1pt.)**. Yeasts occasionally exhibit narrow-based budding. Occasionally yeasts are contained within the cytoplasm of macrophages and foreign body type multinucleated macrophages. **(1pt.)** There is multifocal hemorrhage, edema, and fibrin scattered throughout the exudate **(1pt.)**, and a similar exudate (with yeasts) extends downward and expands Virchow-Robins spaces **(1pt.)**. There is multifocal edema of the subcortical gray matter as evidenced by clear space surrounding capillaries and individual oligodendrocyte nuclei. **(1pt.)** The lateral ventricles are moderate expanded and contains a similar exudate and yeasts **(1pt.)**, which also infiltrates the mildly edematous choroid plexus **(1pt.)** and ependyma **(1pt.)**. There is a mild gliosis subjacent to areas of meningeal inflammation.

MORPHOLOGIC DIAGNOSIS: Cerebrum: Meningitis, granulomatous, multifocal, moderate with granulomatous ventriculitis, choroiditis, multifocal edema, and numerous budding yeasts. **(3pt.)**

CAUSE: *Cryptococcus neoformans* **(2pt.)**

O/C: (1 pt.)