

WSC 2020-2021

Conference 16, Case 1.

Tissue from a squirrel monkey.

**MICROSCOPIC DESCRIPTION:** Ovary **(1pt)**: Effacing 50% of the section, and compressing adjacent normal ovary, **(1pt)** there is a poorly demarcated, unencapsulated, expansile, moderately cellular neoplasm. **(1pt)** Neoplastic cells are arranged in two intermingled patterns. Neoplastic cells are prominently arranged in large follicles **(1pt)** ranging up to 400um containing sheets of polygonal cells that often form rosettes **(1pt)** (Call-Exner bodies) **(1pt)** which occasionally surround a small amount of eosinophilic secretory material. These follicles are surrounded by two to three layers of thecal cells. Between follicular are nests and packets **(1pt)** of neoplastic cells which range from polygonal to spindle **(1pt)**, and are arranged in nests and packets **(1pt)** on a fine fibrovascular stroma. Rarely, these spindle cells are swollen with finely vacuolated cytoplasm (luteinization). **(1pt)** The cells have indistinct cell borders, are polygonal to spindle, **(1pt)** and have a moderate amount of a homogenous eosinophilic cytoplasm. **(1pt)** Nuclei in both subsets are irregularly round to oval with coarsely stippled chromatin and 1-3 small nucleoli. **(1pt)** Mitotic figures are rare. **(1pt)** There are occasional apoptotic cells scattered through the interfollicular areas. **(1pt)** Numerous follicles are present in the remaining normal ovary, ranging from primordial to early antral. **(1pt)** At one edge of the section, there is a 0.75cm cyst lined by ciliated epithelium and containing a small amount of grainy basophilic material.

**MORPHOLOGIC DIAGNOSIS:** Ovary: Granulosa cell tumor, solid and microfollicular. **(4pt)** (Sex cord stromal tumor (granulosa-thecal cell tumor).

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

WSC 2020-2021

Conference 16 Case 2.

Tissue from a mouse.

**MICROSCOPIC DESCRIPTION:** Multiple section of ovary **(1pt)** (one with fimbria and several mature follicles : The ovary is largely effaced by infiltrative, poorly demarcated, variably cellular, multilobular and cystic, poorly demarcated neoplasm **(2pt)** composed of well-differentiated tissues from each of the three germ cell layers. **(2pt)** The predominant morphology of the neoplasm closely recapitulates nervous tissue, with up to 90% of the tissue composed of well-differentiated vacuolated neuropil **(1pt)**. Embedded in the neuropil are numerous variably size ependymal-lined cysts **(1pt)**. The ependymal cells are tall columnar with basilar cytoplasm and prominent which contain moderate amounts of bright pink protein. **(1pt)** The surrounding neuropil contains numerous small well-differentiated stellate neurons **(1pt)** or cells with round vesicular nuclei (astrocytes) **(1pt)**, and smaller round hyperchromatic nuclei (oligodendroglia) **(1pt)**. In one section, primitive neuroepithelial cells **(1pt)** with large nuclei and small amounts of densely basophilic cytoplasm form nests and packets. There are randomly scattered cysts of stratified squamous epithelium with gradual keratinization, occasional keratohyaline granules, and a center of lamellated keratin which is occasionally infiltrated by large numbers of neutrophils. **(1pt)** There are scattered acini of well-differentiated pancreas. Occasional cysts are lined by ciliated columnar respiratory **(1pt)** epithelium throughout which are scattered mucin-containing cells (endodermal tissue.) Mesenchymal elements include sparse skeletal muscle fibers with peripheral satellite nuclei scattered throughout the mass and foci of cartilage and bone. **(1pt)**

**MORPHOLOGIC DIAGNOSIS:** Ovary: Teratoma **(4pt)**

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

WSC 2020-2021

Conference 16, Case 3.

Tissue from a dog.

**MICROSCOPIC DESCRIPTION:** Gonad: A section of gonad contains well-differentiated testicular and ovarian tissue. **(2pt)** At the vascular pole, but scattered in fewer numbers diffusely throughout the remainder of the testis, there are numerous variably-sized (up to 160um in diameter), tortuous and anastomosing **(1pt)** seminiferous tubules **(1pt)** in various planes of section. The seminiferous tubules are totally devoid of spermatogonia. **(1pt)** The seminiferous tubules are surrounded and separated by small 10 to 15um polygonal cells with indistinct cell borders and abundant microvacuolated cytoplasm (interstitial cells) **(1pt)**. At one edge of the section, embedded in the peritesticular fat, there are small numbers of mildly ectatic epididymal tubules **(1pt)** which are devoid of sperm **(1pt)**. These tubules are clustered in normal array but fewer **(1pt)** and separated by increased amounts of mature collagen. There is a well-demarcated 2.5mm nodule **(1pt)** of 25-30um diameter polygonal cells with abundant finely vacuolated eosinophilic cytoplasm, **(1pt)** distinct cell borders and variably sized round nuclei with a prominent nucleolus and finely stippled chromatin (corpora luteum). **(1pt)** Adjacent to this structure, and also embedded in the gonadal stroma and testicular interstitial cells, are two antral follicles **(1pt)** lined by a single layer of pseudostratified granulosa cells **(1pt)** with multiple oocytes **(1pt)**, which are surrounded by several layers of thecal cells. These follicles contain pink proteinaceous material within their center. Deeper in the ovary, there are small numbers of ovarian interstitial glands as well as ovarian subserosal structures at the ovarian periphery. . All vessels within the gonad including those of a poorly developed pampiniform plexus are congested.

**MORPHOLOGIC DIAGNOSIS:** Gonad: Ovotestis (Ovotesticular Disorder of Sexual Development). **(4pt)**

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

WSC 2020-2021

Conference 16, Case 4.

Tissue from a dog.

MICROSCOPIC DESCRIPTION: Ovary **(1pt)**: Expanding the ovary, and compressing as well as surrounding pre-existent follicles **(1pt)** is a 2.5x1.5cm, well-demarcated, unencapsulated, poorly cellular neoplasm. **(2pt)** The neoplasm is composed of endothelial cells **(2pt)** that form numerous blood-filled vascular channels **(1pt)** ranging up to 5mm in diameter **(1pt)**, separated by variably thick bands of mature collagenous stroma. **(1pt)** Neoplastic cells have indistinct cell borders, small amounts of eosinophilic fibrillar cytoplasm **(1pt)**, and oval to elongate nuclei with finely stippled chromatin and variably distinct nucleoli. **(1pt)** Anisokaryosis and anisocytosis are minimal and there is less than 1 mitotic figure per 2.37mm<sup>2</sup> field. **(1pt)** Multifocally vascular spaces are partially occluded by polymerized fibrin **(1pt)** and rare vascular spaces contain a coagulum of aggregated protein and crystalline mineral. **(1pt)** At the periphery of the neoplasm and contained within the collagenous stroma are low numbers of follicles, primarily atretic but few secondary non-ovulating follicles. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Ovary: Vascular hamartoma **(4pt)**

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