WSC 2012-2013, Conference 13

Case 1. Tissue from a mouse.

MICROSCOPIC DESCRIPTION: Seminal vesicles **(1 pt)**: Within and expanding the mucosa **(1 pt)** of the seminal vesicle, there is a moderately cellular, unencapsulated, variably dense, infiltrative neoplasm **(1 pt)**which markedly expands the mucosa, and forms large papillary fronds **(1 pt)** which partially occlude and expand the lumen. Neoplastic cells are arranged in short streams and bundles **(1 pt)** on a finely granular amphophilic matrix **(1 pt)**, and surround and separate glandular elements. Neoplastic cells are spindled **(1 pt)**, rarely stellate with a small amount of finely fibrillar eosinophilic cytoplasm. Nuclei are elongated with finely stippled chromatin and 1-4 basophilic nucleoli **(1 pt)**. Mitotic rate **(1 pt)**averages 1/400 hpf. The mass covered by a single layer of columnar epithelium **(1 pt)**which is rarely attenuated, and often forms torutous glands within the mass. There is a focally extensive area of coagulative necrosis **(1 pt)** within the mass. The submucosal tissue and fibrovascular core underlying the neoplasm is multifocally edematous **(1 pt)**and contains low numbers of lymphocytes and plasma cells Multifocally, throughout the remainder of the seminal vesicle, mucosal epithelium is markedly hyperplastic **(2 pt)**, forming variably sized glandular proliferations into the lumen which vary from a piling of epithelial cells 2-3 layers thick to extensive areas in which epithelial cells form a network of tortuous glands in a cribiform pattern **(1 pt)**.

MORPHOLOGIC DIAGNOSIS: 1. Seminal vesicles: Epithelial-stromal tumor. **(2 pt)**

2. Seminal vesicles, mucosal epithelium: Adenomatous hyperplasia, multifocal, moderate. **(1 pt)**

O/C: (1 pt)

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Case 2. Tissue from a dog.

MICROSCOPIC DESCRIPTION: Ovary **(1 pt)**: 80 percent of the ovary is effaced as well as expanded by an unencapsulated, infiltrative, poorly demarcated densely cellular neoplasm **(2 pt)** which is composed of two populations of cells **(1 pt)**. The neoplasm is composed of variably-sized lobules**(1 pt)** (resembling seminiferous tubules) of densely packed cells surrounded by a dense fibrous stroma. The first population is composed of columnar to spindle cells **(1 pt)** which palisade **(1 pt)** along the basement membrane. These cells have distinct cell borders and a moderate amount of a finely granular cytoplasm **(1 pt)**. Nuclei are usually basilar, with finely stippled chromatin and 1-3 small blue nucleoli **(1 pt)**. Mitotic figures average 1 per 400X field **(1 pt)** and cells are occasionally apoptotic. The second population is composed of round germ cells **(1 pt)** with indistinct cell borders and a moderate to abundant amount of finely granular eosinophilic cytoplasm **(1 pt)**. Nuclei are large, round, centrally placed, with finely stippled chromatin and 1-2 large pink nucleoli **(1 pt)**. Mitotic figures average 2-3 per 400X field. **(1 pt)** Larger lobules often have central areas of necrosis and dropout **(1 pt)**. There is compression and atrophy **(1 pt)** of the adjacent ovarian tissue, and the stroma is mildly edematous with rare aggregates of lymphocytes and plasma cells.

MORPHOLOGIC DIAGNOSIS: Ovary: Mixed germ cell/stromal tumor **(5 pt)**

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

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Case 3. Tissue from a rhesus monkey.

MICROSCOPIC DESCRIPTION: Uterus: Expanding the endometrium **(1 pt)**, replacing normal glands and entrapping remaining cystic and tortuous glands **(1 pt)** is a variably dense, unencapsulated, well demarcated, densely cellular infiltrative neoplasm **(2 pt)** which forms a single large polypoid mass **(1 pt)** which partially occludes the uterine lumen and throws the adjacent endometrium into variably thick rugae. Neoplastic cells are arranged in short streams and bundles **(2 pt)** on a thin myxomatous amphophilic matrix in more densely packed areas to a moderate collagenous stroma **(1 pt)** in more loosely arranged areas, and neoplastic cells often whirl around entrapped endometrial glands. Neoplastic cells range from spindled **(2 pt)** to stellate with indistinct cell borders and a moderate amount of a finely granular amphophilic cytoplasm **(1 pt)**. Nuclei are elongate with finely stippled chromatin and 1-2 small basophilic nucleoli **(2 pt)**. Mitotic figures average 2-4 per 400X field **(1 pt)**. Uterine epithelium lining the lumen as well as cystic glands is multifocally attenuated, and glands often contain abundant basophilic proteinaceous secretory material **(1 pt)**. The neoplasm extends minimally into the underlying smooth muscle, and there are low to moderate numbers of lymphocytes and plasma cells surrounding vessels within the muscle layer.

MORPHOLOGIC DIAGNOSIS: Uterus: Endometrial stromal sarcoma **(4 pt)**

O/C: (1pt)

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Case 4. Tissue from mouse.

MICROSCOPIC DESCRIPTION: Ovary (within the ovarian bursa): Expanding the ovary, there is a 3mm **(1 pt.)** nodular, expansile, moderately cellular, well-demarcated, unencapsulated **(2 pt.)** hemorrhagic neoplasm which effaces 75% of the ovary. Neoplastic cells are arranged in sheets **(1 pt.)** on a pre-existent stroma **(1 pt.)**. Neoplastic cells, which resemble trophoblasts **(1 pt.)**, are round **(1 pt.).** range up to 150um in diameter **(1 pt.)**, with indistinct cell borders and abundant granular eosinophilic cytoplasm **(1 pt.)**, which becomes mildly basophilic at the cell periphery. Nuclei are pleomorphic **(1 pt.)** and are generally round, centrally located with 2-4 large, irregularly-shaped basophilic nucleoli **(1 pt.)**. Mitoses are rare **(1 pt.)**. Approximately 75% of the neoplasm is necrotic **(1 pt.)**, with extensive hemorrhage **(1 pt.)** and fibrin replacing tissue, and surrounding remaining viable neoplastic cells. There are several large corpora lutea within the remaining normal ovary.

MORPHOLOGIC DIAGNOSIS: Ovary: Choriocarcinoma **(5 pt)**

O/C: (1pt)