ECVP/ESVP Summer School in Veterinary Pathology

Marie Curie Training Courses

Summer School 2008 – CNS Case 35

Case 35) S 3341/98 A
Tissue from a DOG

Brain: The slide shows a nodular, expansile, well-demarcated, moderately cellular, partially encapsulated mass, measuring 2.5 x 1 cm that extends to cut borders. The cells are arranged in three distinct cell types and mixed fields are common. The tumor displays a moderate amount of a fine fibrovascular stroma, which divides the tumor. The first cell type consists of nests and islands of loosely arranged, round to oval, sometimes polygonal cells with distinct cell borders, that measure about 15 µm in diameter. These cells have a scant amount of a finely granular, amphophilic cytoplasm. The nucleus to cytoplasm ratio is 1:0.5 to 1:1. The centrally located round nucleus displays a coarsely clumped chromatin pattern with a predominance of heterochromatin. Each nucleus contains a single, small, indistinct, basophilic nucleolus. The second cell type is arranged in cords, separated by a vascular, sinusoidal network. These cells are polygonal, have distinct cell borders and measure about 40 – 50 µm in diameter. These cells have abundant, eosinophilic, finely granular cytoplasm that often contains 1-2 large, clear vacuoles. The nucleus to cytoplasmic ratio is 1:5 to 1:6. The excentrically located, large, ovoid nuclei show a vesicular chromatin pattern with a predominance of euchromatin. Each nucleus contains a single, prominent, basophilic nucleolus. The third cell type formed acinar structures. These cells are tall columnar, have distinct cell borders and measure about 10 x 30 µm to 20 x 40 µm. They have a slightly granulated to vacuolated, eosinophilic cytoplasm. The nucleus to cytoplasm ratio is 1:3 to 1:4. The basally located, round to oval nucleus displays a vesicular chromatin pattern with a predominance of euchromatin. Each nucleus contains 1-2 distinct, basophilic nucleoli. The acinar and tubular structures often contain an eosinophilic, amorphous material (proteinaceous fluid) admixed with cellular debris. The cells show a moderate anisocytosis and anisokaryosis. Mitoses ranges from 0 to 3 per high power field with rare bizarre mitoses. Multifocally there are areas with loss of architecture, cellular debris and karyorrhexis and karyolysis in the remaining cells (necrosis). There is compression atrophy of the adjacent brain parenchyma.

Morphological diagnosis:
brain, suprasellar germ cell tumor