ECVP/ESVP Summer School in Veterinary Pathology

Marie Curie Training Courses

Summer School 2004 – Case 9

Slide No. 9: Cytology from a CAT

1. DESCRIPTION OF CYTOLOGICAL FINDINGS

The smear is highly cellular. An abundant pink proteinaceous background, scattered erythrocytes and naked nuclei are also present. A mixed population of cells with predominance (>90%) of moderately to intensely pleomorphic, medium to large-sized (up to 80μm) spindle cells with indistinct margins is present. The cells have moderate to severe anisocytosis, anisokaryosis and variable nuclear-cytoplasmic ratio. The cytoplasm, moderate to abundant, is lightly blue with occasional multiple, small, clear vacuoles. Nuclei are oval, central, with a reticular to granular, often irregularly coarse chromatin pattern. A single, round, central, prominent nucleolus is often present although there is common variation in nucleolar size, number and prominence. Atypical mitotic figures and multinucleated cells (2-5 very anisokaryotic nuclei) are occasionally seen. There is an additional population (5-10%) of often very large, round to polygonal multinucleated cells. These cells are characterized by round, often tightly packed nuclei with granular chromatin, absence of anisokaryosis and a single, round, central nucleolus. Cytoplasm is usually scant and blue with frequent small azurophilic granules (osteoclasts).

2. MORPHOLOGICAL DIAGNOSIS:

Sarcoma/spindle cell sarcoma/fibrosarcoma/malignant fibrous histiocytoma (giant cell subtype)

MARKS:

- descriptive features	
Background and naked nuclei	1
High cellularity	1
Mixed population	1
Prevalence of spindle cells	1
Cell size	1
Anisocytosis, anisokaryosis, variable N/C ratio	2
Cytoplasmic features (amount, colour, vacuoles)	2
Nuclear features (oval, central, chromatin pattern)	1.5
Nucleolar features (single, round, central, prominent)	1.5
Mitoses	1
Multinucleated cells (osteoclasts), features	3
- diagnosis:	2
Style:	2