



ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2012 – Cytology

H04-2020

Briard, 8 years, female neutered
Subcutaneous nodule, neck (laryngeal region) Imprint

Description

The smear is highly cellular and contains bluish material (cytoplasmic lakes) in the background. Cells are in large areas spread as a monolayer and well-preserved. Most of the cells are moderately polymorphic middle-sized epithelial cells (average: 25µm in diameter), that are either isolated or form small to moderately sized dense clusters. Most of the cells have a large amount of lightly blue to greyish, finely granular cytoplasm that contains some times small, optical empty vacuoles or fine, darkly pigmented granules (tyrosine). Cell borders are often indistinct. Nuclei are round, centrally or eccentrically located and hyperchromatic with clumped chromatin. Usually multiple small nucleoli are visible. Significant variation of cell- and nuclear size is present (anisocytosis, anisokaryosis). Giant nuclei (diameter > 35 µm) and double-nucleated cells are seen. Mitotic rate is low (many smears: no mitotic figures are evident). In the background, large numbers of nuclei as described without corresponding cytoplasm (naked nuclei, consistent with endocrine neoplasm) are present. Neoplastic cells are often surrounded by or form acini that surround eosinophilic material (interpreted as colloid). Additionally, few large cells (diameter about 25µm) with a large amount of often vacuolated cytoplasm are visible (macrophages). Some of them contain erythrocytes (erythrophagocytosis, indicating recent haemorrhage) that are also seen in moderate numbers in the background, or dark, coarse granules (interpreted as haemosiderin). Few large, angular, unstained, crystalline structures (interpreted as cholesterol crystals) are seen in some smears

Diagnosis

Subcutis: Endocrine carcinoma (thyroid carcinoma)

Score

Criterion points	
Design	2
Epithelial cells	1
Indistinct cell borders	1
Dark pigmented granules (tyrosine)	2
Round nuclei	1
Clumped chromatin	1
Anisokaryosis and –cytosis	2
Giant nuclei	1



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Double-nucleated cells	1
Naked nuclei (endocrine)	2
Colloid	1
Macrophages	1
Eythrophagocytosis	1
Erythrocytes	1
Diagnosis: endocrine carcinoma (1) thyroid carcinoma (2)	1-2