# ECVP/ESVP Summer School in Veterinary Pathology

## Marie Curie Training Courses

### Summer School 2008 – Mock Exam Case 4

**ECVP MOCK EXAMINATION, JACA, 2008** **HISTOPATHOLOGY**

**Slide n°4: Tissue from a Canine**

**Description:**
Uterus: The endometrium is markedly expanded by increased numbers of enlarged uterine glands and by numerous small to large glandular cysts. They are lined by a single layer of cuboidal to columnar epithelial cells that are often finely vacuolated (interpreted as glycogen deposition) and form papillary projections that protrude into the lumina of the cysts. Cysts are filled with large amounts of homogeneous to granular bluish material with embedded eosinophilic globules (both interpreted as secretion). Within some cysts, as well as on the luminal surface, there are large numbers of neutrophils with swollen, karyorrhectic and pycnotic nuclei are present (interpreted as signs of degeneration). Multifocally within this inflammatory exudate small colonies formed by bacterial cocci are seen. The endometrium is infiltrated by large numbers of plasma cells, some of them containing eosinophilic globules (interpreted as Russell bodies), and fewer lymphocytes, macrophages and neutrophils. Endothelial cells of small and medium sized endometrial vessels are enlarged (interpreted as activation) and the number of vessels is increased (proliferation of vessels). Within the tunica muscularis few plasma cells, lymphocytes, macrophages and neutrophils form mild perivascular infiltrates.

**Morphologic diagnosis/diagnoses:**
1. Endometrial cystic hyperplasia, severe, diffuse
2. Endometritis, chronic-active, plasmacytic and purulent with bacterial colonies (Pyometra)

**Pathogenesis:**
Hormonal imbalance/aberrant hormonal function => Priming with estrogen followed by prolonged influence and/or elevated concentration of progesterone resulting in endometrial hyperplasia => hyperplastic endometrium more susceptible to bacterial infection (infection during estrus); (primary bacterial infection followed by the development of cystic hyperplasia in the luteal phase is also possible)

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| Organ: uterus | 1 |
| Glandular cysts | 1 |
| Vacuolation of epithelial cells (glycogen) | 1 |
| Hypertrophy of endometrial cells | 1 |
| Secretion | 1 |
| Purulent inflammation (cysts and lumen) | 1 |
| Degeneration of neutrophils | 1 |
| Bacterial colonies | 1 |
| Inflammation of the endometrium<br>plasma cells, lymphocytes, macrophages, neutrophils | 1 each<br>(4 pts) |
| Inflammation tunica muscularis | 1 |
| MD : endometrial cystic hyperplasia, severe, diffuse | 1 |
| endometritis, chronic-active, plasmacytic and purulent | 1 |
| bacterial colonies (pyometra) | 1 |
| Pathogenesis | 2 |
| Style | 2 |
| Total | 20 |