

ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2012 – Cytology

Z03-1151

Horse, 15 years, male neutered

Colic, fever, peritonitis

Abdominal fluid: cell count: 279'000 cells/ μ l, protein: 31 g/l, specific weight: 1024 g/l

Description

The smear is highly cellular (for abdominal fluid) and composed of about 90% neutrophils that are round, measure up to 15 μ m in diameter and have segmented, dark blue nuclei with clear margins and with clumped chromatin (no degeneration). About 10% of the cells are round to oval, measure up to 20 μ m in diameter and have round to bean shaped nuclei with lacy chromatin and distinct nucleoli. They have abundant bluish cytoplasm, which is often vacuolated (macrophages). They often contain erythrocytes (erythrophagocytosis) and rarely neutrophils (aging and removal of neutrophils). In the background low numbers of erythrocytes, single lymphocytes and rarely staining precipitates are visible.

Diagnosis

Abdominal fluid: non-septic exudate with acute purulent inflammation and haemorrhage

Possible aetiology

Neoplasia, intestinal torsion, uroperitoneum

Comment: not finding organisms and normal morphology of neutrophils does not completely exclude bacterial infection as some bacteria produce scant amounts of toxins (or weak toxins). Therefore culture is needed to confirm a sterile inflammation.

Score

Design	2
High cellularity	1
Ratio of cell types present (90% neutrophils...)	1
No degeneration	1
Erythrophagocytosis	1
Removal of neutrophils	1
Diagnosis (non-septic exudate, purulent, hemorrhagic)	3
Aetiology	3