

ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2016 – Mock Exam

6. Tissue from a Fish

Heart.

There is a **focal extensive** necrotic and inflammatory lesion of the myocardium characterized by replacement of cardiomyocytes by hyperacidophilic cell debris (**lytic necrosis**), an extracellular fibrillar acidophilic material (**fibrin**), abundant pyknotic or karyorrhectic neutrophils (**suppuration**), extravasated erythrocytes (**hemorrhages**) and basophilic, anucleate 1 µm in diameter organisms (**bacterial colonies**). In multiple myocardial areas, cardiac muscle cells still have distinct margins, but a hyperacidophilic cytoplasm with **loss of striations** and condensed (pyknotic) to absent (karyolysis) nucleus (**coagulative necrosis**). Around necrotic foci there are a moderate **capillary hyperemia**, lumen occlusion of capillaries and small-caliber veins by fibrin (**thrombosis**), and interstitial expansion by seroproteinaceous edema (**exudate**) and **hemorrhages**. Fibrin also fills the cardiac chambers (**endocarditis with thrombosis**). A marked **fibrinous** and heterophilic **pericarditis** is associated.

Morphologic diagnosis / diagnoses

Focally extensive marked acute **necrotizing (0.5)**, **hemorrhagic** and **suppurative (0.5) myocarditis (1)** with intralesional **bacterial colonies (0.5)**, fibrinous epicarditis and **endocarditis (0.5)** with thrombosis.

Etiologic diagnosis / diagnoses: Bacterial myocarditis (and endocarditis, epicarditis)

Marks

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|---|-----|
| Heart | 1 |
| Cardiomyocyte necrosis | 1 |
| Hyperacidophilia + pyknosis | 1 |
| Fibrin | 1 |
| Extracellular acidophilic material | 1 |
| Thrombosis | 1 |
| Suppuration | 1 |
| Degenerate / necrotic neutrophils | 1 |
| Hemorrhages | 1 |
| Extravasated red blood cells | 1 |
| Bacterial colonies | 0.5 |
| 1-micrometer anucleate basophilic organisms | 1.5 |
| Capillary hyperemia | 0.5 |
| Capillary / venous thrombosis | 0.5 |
| Fibrinous pericarditis | 1 |
| Morphologic diagnosis | 3 |
| Etiologic diagnosis | 1 |
| Design | 2 |