ECVP/ESVP Summer School in Veterinary Pathology

Summer School 2015 – Histology

Case 2

TORTOISE

HD: Liver.

Multifocal, unencapsulated, random, irregularly nodular, 1-3 mm in diameter necrotizing and inflammatory foci replace approximately 30% of the liver.

The center of the nodular lesions consists of abundant basophilic granular cellular debris (karyorrhectic/necrotic cells) with complete loss of cell details (lytic necrosis) admixed to intensely eosinophilic, shrunken hepatocytes with faded nuclei (coagulative necrosis). Necrotic material is surrounded by an elevated number of both viable ad degenerated heterophilis with karyolitic nuclei, surrounded or embedded in a lightly eosinophilic reticular, fibrillar finely beaded meshwork (fibrin). Surrounding the necrotic core there are elevated numbers of foamy reactive macrophages (occasionally bi- to multinucleated).

At the borders of the necrotic foci and more rarely within the cytoplasm of macrophages, scattered, round protozoal parasites, 15 to 30 micron in diameter, with clear to finely granular cytoplasm, distinct cell borders and central, one to two, eosinophilic round nuclei (amoebic trophozoites) are present.

Lumen of blood vessels are multifocally occluded by fibrin, entrapped red blood cell adhering to the endothelium (fibrinocellular thrombi) that occasionally contain amebic trophozoites.

The parenchyma spared by the necrotic and pyogranulomatous foci is multifocally characterized by swollen hepatocytes, with granular cytoplasm (vacuolar/hydropic degeneration). Diffusely, in the cytoplasm of hepatocytes, yellow-greenish, coarsely granular pigment (bile stasis) is evident.

Diffusely sinusoidal hyperemia is present.

The hepatic capsule is thickened by moderate numbers of plump reactive fibroblasts and lesser numbers of fibrocytes embedded in a moderate amount of homogeneous intensely eosinophilic fibrillary material (collagen) interpreted as fibroplasia. Multifocally, there are increased numbers of melanophores.

MD: Liver**:** severe, multifocal random, subacute necrotizing and heterophilic hepatitis with intralesional trophozoites consistent with amoeba

E: *Entamoeba invadens*

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Histologic Description	Points
Style	1
Random	1
foci 1-3 mm	0,5
Necrotizing and inflammatory	0,5
30% of the liver parenchyma	1
Foci composed of:	
abundant basophilic granular karyorrhectic and necrotic debris	0.5
shrunken hepatocytes with faded nuclei (coagulative necrosis)	1
both viable ad degenerated heterophilis	1
lightly eosinophilic fibrillar meshwork (fibrin)	1
Macrophages	0.5
Parasite elements:	
15 to 30 micron	0.5
clear to finely granular cytoplasm	0.5
distinct cell borders	0.5
single or double nuclei	0.5
Interpreted as amoebic trophozoites	1
Vessels:	
Intravascular thrombi	1
Additional findings:	
Swollen hepatocytes (vacuolar/hydropic degeneration)	0.5
Intracellular bile stasis	0.5
Increased aggregates of melanophores	1
Capsular fibrosis/fibropasia	0.5
Hyperaemia	0.5
MD/MDs: Severe (0.5), multifocal to random, subacute (0.5) necrotizing (0,5) and heterophilic (0.5) hepatitis (0.5) with intralesional trophozoites consistent with amoeba (0.5)	3
E/Es: *Entamoeba invadens (most common species)*	2
	20