WSC 2012-2013, Conference 12

Case 1. Tissue from a spotted eagle ray.

MICROSCOPIC DESCRIPTION: Gill. Gill filament architecture is multifocally altered with loss of intralamellar spaces. Numerous lamellar epithelial cells **(1 pt)**and alarm cells **(1 pt)** are expanded up to 150um **(1 pt)** by a large, granular to homogenous basophilic intracytoplasmic inclusion which peripheralizes cytoplasm and nuclei **(1 pt)**. The inclusion-laden epithelium compresses adjacent epithelial cells, filling the lamellar troughs **(1 pt)** and compressing epithelial cells on opposing lamellae.. There is multifocal marked hypertrophy and hyperplasia **(2 pt)** of lamellar epithelium with piling up, most commonly at the deepest aspects of the lamellar trough. Occasionally, hyperplastic epithelium bridges lamellae, resulting in fusion of lamellae **(1 pt)**. Multifocally, capillaries are multifocally dilated (telangiectasia) **(1 pt)**, and there are occasionally fibrin thrombi **(1 pt)**. The gill filament core is infiltrated by moderate numbers of eosinophilic granulocytes, lymphocytes, and histiocytes. **(2 pt)**

MORPHOLOGIC DIAGNOSIS: 1. Gill: Lamellar epithelial hyperplasia and hypertrophy with multifocal lamellar fusion and numerous intraepithelial and intracytoplasmic bacilli. **(3 pt)**

2. Gill, capillaries: Telangiectasis and thrombosis, multifocal, moderate. **(1 pt)**

CAUSE: *Epitheliocystis* sp. **(3 pt)**

O/C: (1 pt)

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Case 2. Tissue from a green grouper.

(This is a crappy descriptive slide – just look at the description and move on…)

MICROSCOPIC DESCRIPTION: Spleen **(1 pt)**: Multifocally, low to moderate numbers of leukocytes **(2 pt)** are enlarged up to 40um **(1 pt)**, with a large nucleus **(1 pt)** with prominent eosinophilic nucleoli **(1 pt)** and variably discrete homogenous irregular purple cytoplasmic viral inclusion **(2 pt)** that rarely displaces and peripheralizes the nucleus. Multifocally, rare virally-infected leukocytes are degenerate or necrotic **(1 pt)** with shrinkage, condensed cytoplasm **(1 pt)**, and karyorrhectic nuclei . There are moderate numbers of aggregated melanin-laden macrophages **(1 pt)**.

Mesentery: Exocrine and endocrine pancreas are within normal limits. The mesenteric fibrous connective tissue is infiltrated by low numbers of lymphocytes, histiocytes, are rare granulocytes. **(2 pt)**

MORPHOLOGIC DIAGNOSIS: Spleen, leukocytes: Cytomegaly with Intracytoplasmic viral inclusions. **(3 pt)**

CAUSE: Piscine megalocytivirus (iridovirus OK) **(3 pt)**

O/C: **(1pt)**

Fun fact: Iridoviruses are DNA viruses in which you can see viral particles in the cytoplasm (where they are packaged, with an intact nuclear membrane. (OK, not so much fun.)

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Case 3. Tissue from an abalone.

MICROSCOPIC DESCRIPTION: Foot **(1 pt)**: Focally, within the skeletal muscle **(1 pt)** of the foot, there is an area of necrosis **(1 pt)** measuring 5mm **(1 pt)** in diameter, which contains numerous round unicellular **(1 pt)** 8-12 organisms ranging from 12um (trophozoites) **(1 pt)** to multicellular schizonts **(1 pt)** measuring up to 40um. Trophozoites are round with a distinct 2um cell wall, abundant purple granular cytoplasm, a peripheral pink nucleus with a prominent nucleolus, and a large single clear vacuole containing low numbers of bright pink granules **(2 pt)**. The organisms are suspended in a fluctuant pink proteinaceous material and admixed with moderate numbers of degenerate (probably autolytic) hemocytes **(2 pt)**. There are numerous hemocytes infiltrating the skeletal muscle surrounding the cavitated area. **(2 pt)**.

MORPHOLOGIC DIAGNOSIS: Foot: Rhabdomyositis, necrotizing, focally extensive, moderate with numerous protistal . **(3 pt)**

CAUSE: *Perkinsus sp.* **(2 pt)**

O/C: (1pt)

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Case 4. Tissue from an African clawed frog.

MICROSCOPIC DESCRIPTION: Liver. Within and expanding the sinusoids **(1 pt)** and compressing **(1 pt)** adjacent atrophic **(1 pt)** hepatocytes and multifocally elevateing the capsule **(1 pt)**, there are variably sized, often coalescing nodules **(1 pt)** of large numbers of macrophages **(2 pt)** and fewer granulocytes **(1 pt)** (and possibly agranulocytes). Macrophages are polygonal to spindle, generally uninucleate, and range up to 20um in diameter. **(1 pt)** There is a moderate amount of particulate melanin scattered throughout macrophages within the granulomas **(1 pt)**, and increased melanin stores throughout the section **(1 pt)**. Sinusoids are congested and there are increased numbers of granulocytes lining them **(1 pt)**. The inflammatory nodules often compress or replace adjacent atrophic hepatocytes; remaining hepatocytes have numerous discrete vacuoles (degeneration) **(1 pt)**.

MORPHOLOGIC DIAGNOSIS: Liver: Hepatitis, granulomatous, diffuse, severe. **(3 pt)**

CAUSE: *Mycobacterium sp (any member of the MAIC OK)* **(3 pt.)**

O/C: (1pt)