Marine

Gill Histopathology Workshop Summing up

Anne Berit Olsen, NVI Bergen

Oslo, 22nd May, 2014

Norwegian Veterinary Institute

2nd Gill Histopathology Workshop

- Nearly 50 participants
- 12 presentations
- Tasmania, Chile, Southern and Northern Europe
- Mixture of power-points, pre-scanned slides and slides shown live

Norwegian Veterinary Institute

The presentations

- Demonstration of a novel histopathological scoring system for salmonid gills – *M. Gjessing*
- Acute and chronic gill damage in Tasmanian salmon – *B. Nowak*
- Intrabranchial lymphoid tissue (ILT) in salmonid fish – *A. Seljenes Dalum*

The cases

- Observations post chemical treatments, A. salmon
  – *P. Noruega*
- Jelly fish: Acute and healing pathology, A. salmon
  - *M. Powell*
- Jelly fish and hydroid pathology, A. salmon- *H. Rodger*
- Infection with *D. lepeophterii,* A. salmon– *O. B. Dale*
- Multifactorial gill pathology, *P. perurans*, *D. lepeoptherii*, A. salmon –*M. Marcos-Lopez*

The cases cont.

- Demonstration of a gill scoring system, A. salmon- *K.-I. Lie*
- Epitheliocystis in coho salmon

  Gill arch deformation, A.s and rainbow trout

  Gill necrosis in A. salmon- *M. Godoy*
- Gill challenges Mediterranean species, sea bass – *A. Giron*
- Possible herpesvirus infection in sole - *F. Padros*

Possible achievements for the histopathology workshops

1. Establish a common platform for the judgment of gill histopathology
2. Establish criteria for the diagnosis of specific gill diseases
3. Show cases of known, unknown or possible aetiology for the purpose of discussion and good ideas for further investigations

1. Establish a common platform

All presenters had been asked to

- use best morphological terms
- indicate criteria for duration of disease
- point out findings useful for aetiology
- evaluate severity and significance

Especially difficult to evaluate <u>significance</u> as morphological change probably lags far behind functional impairment

1. Establish a common platform cont.

Scoring systems

Standardize the reading and judgment of slides

- Different systems in use
- Essential to standardize sampling
- Discussion on how to score extent of lesion

2. Establish criteria for specific diseases

- Cases on *Desmozoon lepeoptherii*-pathology-getting closer to a disease definition?
- Challenge experiments necessary to link cause and pathology - Several presentations
  - Jelly fish
  - Hydroids
  - H_2O_2
  - Amoebic gill disease - AGD

3. Show cases of known, unknown or possible aetiology

Different cases presented

Very useful – eye openers

Further contact and exchange of ideas possible

Knowledge gaps

- Normal functions of …
  - different cell types and trigger mechanisms?
- Pathomorphology
  - More use of electronmicroscopy?
- Physiology and pathophysiology
  - Relate type and extent of lesion to affect on the fish
- Experimental trials, single and mixed aetiologies

Summary of summary….

- Significant interest in gill histology
- Histology is an essential tool / gold standard
- Still knowledge gaps to fill