Rainbow trout, fish farm

Macroscopy: multiple white nodules on the skin, sometimes ulcerated

Organ: skin
Bacterial colonies

Neutrophilic granulocytes, partly degenerated
Oedema of scale pockets
Morphological diagnosis

Skin, necrotising and purulent dermatitis, focal extensive, severe, acute with bacterial colonies

Aetiology

*Aeromonas salmonicida subsp. salmonicida*

Furunculosis
Rainbow trout, fish farm
Clinic: low mortality rates
Macroscopy: miliary whitish nodules in liver, kidney and heart, splenomegaly
Organs: kidney, heart
Histologische Befunde
Subendocardial, subepicardial and myocardial infiltration with mainly macrophages
Myocardial degeneration
Histologische Befunde
Histologische Befunde

Leber
Gram-staining

Immunohistochemistry
Morphological diagnoses

Heart, granulomatous epi-, endo- and myocarditis, multifocal, moderate with intracytoplasmatic bacteria

Kidney, granulomatous nephritis, multifocal, moderate with intracytoplasmatic bacteria

Aetiology

*Renibacterium salmoninarum*

Bacterial Kidney Disease (BKD)
F07/4108 and F05/4000

Rainbow trout, fish farm

Clinic: increased respiration rate, high mortality

Organ: gills
Epithelial hyperplasia
Lamellar fusion
Formation of pseudocysts
Epithelial necrosis
Morphological diagnosis

Gills, proliferative branchitis, multifocal, severe, with filamentous bacteria (and ciliates)

Aetiologies

*Flavobacterium branchiophilum*

(*Trichodina* sp.)

Bacterial gill disease
Rainbow trout fry, fish farm

Clinic: high mortality in fry

Organ: spleen
Granulomatous inflammation
Blurred border line

Fibrin
Morphological diagnoses

Spleen, granulomatous splenitis, multifocal to coalescing, severe
Pancreas, fat tissue, granulomatous steatitis and pancreatitis, multifocal
to coalescing, moderate

Aetiology

*Flavobacterium psychrophilum*

Rainbow trout fry syndrome
Morphological diagnoses

Spleen, necrotising and haemorrhagic splenitis, diffuse, severe

Aetiology

*Flavobacterium psychrophilum*

Rainbow trout fry syndrome
Ornamental fish, freshwater aquaria

Clinic: chronic course, low mortality, apathy, cachexia, deformed spine

Organ: cross section through several organs
Kidney and spleen
Morphological diagnosis

Liver, kidney, spleen, intestine, peritoneum, eye, granulomatous hepatitis, ..., multifocal, severe

Aetiology

*Mycobacterium* sp.

Fish Tuberculosis
Feral brown trout
No clinical symptoms
Organ: ovary
Egg shell

Microspora
Eccentric nucleus
Vacuole
Morphological diagnosis

Ovary, granulomatous oophoritis, multifocal, severe with intracellular microsporidia

Aetiology

*Microspora salmonis*
Rainbow trout, fish farm, natural environment

Organ: kidney
Granulomatous inflammation

Ichthyophonus spore
- Epitheloid-macrophages
- Multinucleated giant cells
- Basophilic lamellar cell membrane
- Granulated cytoplasm
- Multiple small basophilic nuclei
- Granulated cytoplasm
- Multiple small basophilic nuclei
Degenerated spore
Morphological diagnosis

Kidney, granulomatous nephritis, multifocal, severe with *Ichthyophonus* spores

Aetiology

*Ichthyophonus hoferi*