

# BACTERIAL GILL DISEASE

Lethargy, congestion, hyperemic gills, dyspnea, mucus accumulation gills, up to % 25 mortality can occur

Agents ; *Flavobacterium branchiophila*

***Risk factors;*** low oxygen, high turbidity, high ammonia, and overcrowding.  
transmission via water

Incubation time is 3-7 days

gills are initially hyperemic, then anemic

hyperplasia, mucoid secretion coverslips in epithelial glands

the ends of the filaments thicken, later necrosis develops

lesions are more limited to gills

Sick fish swims close to water surface and slow swimming, difficulty breathing, fish swims towards the air filter

If the disease is complicated by fungal infections (*Saprolegnia*), the disease becomes heavy and treatment does not accept

Pantothenic acid deficiency cause disease degree increases

Excessive presence of pesticides and chemicals in the water has a negative effect on the gills

***In prevention and control;*** preparatory agents are removed from the water;  
no toxic and organic substances in water  
fish density should be adjusted well  
water pH should be appropriate  
should not lack of vitamins and minerals

Bacterial gills disease usually responds to antiseptic baths. Providing adequate oxygen is useful supportive therapy. Reducing stressors is important. It is likely that this organisms may occur naturally on healthy fish and possibly in aquatic ecosystems.

# **FURUNCULOSIS and BACTERIAL ULCER DISEASE**

Skin ulcers " furuncles" , red areas on body , depression, exophthalmos and swollen abdomen

*Aeromonas salmonicida* infection is a common bacterial disease of aquarium fishs.

Transmission ; skin ulcers are a major source of infection during disease, and vertical transmission via infected ova occurs rarely.

Clinical signs of this disease range from superficial or deep skin lesions without systemic involvement (ulcer disease) to a typical, bacterial septicemia ( furunculosis )

## ***Form of furunculosis :***

Clinical signs of furunculosis depend on the time –course of infection with gross signs more apparent with increasing chronicity.

Peracute disease is the least common presentation, and fish die rapidly, typically without any gross lesions except darkening.

The acute form is the most common, especially growing fish. It presents as a typical bacterial hemorrhagic septicemia, with bacteria disseminated in many tissues, fish often die in 2 to 3 days.

The subacute/chronic form is less common than the acute form. Mostly seen in adults, it presents as a more chronic form of bacterial hemorrhagic septicemia, which may include exophthalmus, bloody discharges in the viscera, and multifocal hemorrhages in the viscera and muscle.

Gills may be pale from anemia or may have hemorrhages. Fibrinous edema and serosanguinous fluid may be present.

The classical but inconsistently present clinical sign of chronic disease is the furuncle, actually a dark, which ulcerates to release serosanguinous fluid.

### ***Form of ulcerosis***

Ulcer disease is the most common, and unlike furunculosis, ulcer disease is typically localized to the skin and only becomes systemic late in the disease.

Skin lesions range from whitish discolorations to shallow hemorrhagic ulcers to deep lesions that expose underlying muscle or bone. Because of their chronicity, lesions are often secondarily infected with water molds, protozoa, and other bacteria. Fish may have hemorrhage on the body and the base of the fins.

Agents are probably an obligate pathogen but may survive for long periods off host fish. Bacteria can survive in water for up to about 3 weeks and may possibly survive for months in sediments.

Oxytetracycline, furazolidone, oxolinic acid, and potentiated sulfonamides have been used successfully.

# BACTERIAL HEMORRHAGIC SEPTICEMIA

*Aeromonas salmonicida* infection is a common bacterial disease of aquarium fish.

Bacterial hemorrhagic septicemia can be peracute with no presenting signs. Acute cases display loss of scales, focal hemorrhages of the gills around the vent in the mouth, and at the base of fins. Skin ulcers can develop anywhere on the body. Exophthalmus and abdominal distension through accumulation of ascitic fluid may be evident. Chronic cases also occur. Anemia and renal and hepatic damage are often seen.

The disease can occur in individual fish, or it can become endemic. Mortality rates are also highly variable but can be extremely high.

Oxytetracycline has been the predominant antibiotic used to treat the disease.

# VIBRIOSIS --- RED PEST

Red areas on body , skin ulcer, depression ,exophthalmus, swollen abdomen

Vibriosis is caused by infection with one of several members of the *Vibrio*, but *Vibrio anguillarum* is the most pathogen organism in the fish.

A major predisposing risk factor for vibriosis in fish is high temperatures. Crowding, organic pollution, stress can also precipitate outbreaks.

The peracute form present as anorexia, darkening, and sudden death young fish. Autopsy feature include kidney, spleen and renal necrosis.

In peracute form, dark, fluctuant, subdermal cavitationa ulcerate to release serosanguinous fluid. There is abdomen distension , anemia, and dermal hemorrhage. Internal signs of typical septicemia include visceral petechiation , splenomegaly, and renal necrosis. There is necrosis of the liver, heart, spleen,kidney. A necrotic enteritis produces a catarrhal, yellow, mucoid exudate.

In the chronic form present as organized, deep, granulomatous muscle lesions on various parts of the body, including the head. Deep muscle lesions may not be apparent until slaughter. Eye lesions are common, including corneal edema, ulceration, and exophthalmos. There is also hemorrhage in the abdomen cavity, contributing to anemia and fibrinous adhesions.

Vibriosis is a classical example of a stress-borne disease. Losses caused by vibriosis are highly depended on the severity of the environmental stress that precipitated the outbreak, varying from acute and chronic.

Oxytetracycline and potentiated sulfonamids have been used successfully. Reducing stress is imperative for long-term management. Commercial vaccines, available for *V. Anguillarum*, provide good protection for populations at risk.

# LYMPHOCYTIS

Small and large round style on leather and fins in fish characterized by the formation of pearl-like nodules chronic, low mortality is a viral infection of the tumor structure.

Etiology; Viruses in Iridoviridae are responsible for the disease.

disease is seen in fresh and salt water fish.

Epizootiology; as a result of direct contact with infected water and material,  
sudden or continuous changes in water temperature  
excess number of fish, degeneration of skin

Symptoms; after the organism entry into the body , cells growth begins and cell growth continues for 5-9 months,  
according to the big of the fish cell diameter is 1 mm. ,  
at the time the nucleus growth occurs in the cell  
extreme growing cells are destroyed and the agent scattered in the water  
the noticing nodules usually become in the beginning of 2-3 months  
nodules are look individual or group  
the formation of nodules in internal organs is rarely

diagnosis; it is often easy to identify the disease

treatment; there is no obvious drug,  
removal of sick fish from the aquarium  
thoroughly disinfecting the aquarium with HCL