

Freshwater Hole in the Head Disease Symptoms, Causes, and Treatment

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Hole in the head disease is a fairly common disease of freshwater fish that primarily affects cichlids, discus, and oscars. Another common name for this disease is Freshwater Head and Lateral Line Erosion (FHLLE). There are several suspected causes of this disease, and while it can be fatal, if treated early, most fish can survive. This article will describe the symptoms, causes, and treatments of this common problem.

Causes of hole in the head disease

The exact cause of hole in the head disease has yet to be determined. There are, however, several very solid theories that link certain conditions with an increase in the incidence of the disease. The presence of any one of the causative factors may not be responsible for the disease, but a combination of two or more factors is likely to create disease symptoms.

A common contributing cause is the flagellate parasite *Hexamita*. This parasite primarily infects the intestinal tract, but then spreads to the gall bladder, abdominal cavity, spleen, and kidneys. As the disease progresses, the classical lesions of hole in the head disease appear. These lesions will open up and may discharge small white threads that contain parasitic larvae. Secondary bacterial or fungal infections may then develop in these openings and may lead to a more serious disease, and death.

Another popular theory is that a mineral or a vitamin imbalance may contribute to the development of this disease. Some aquarists have claimed a link between the use of activated carbon and an increase in the disease. Some people feel that the carbon may remove some of the beneficial minerals found in the water leading to an increased incidence in the disease. At the same time, the mineral imbalance may be caused by an increase in *Hexamita* organisms in the intestine, which may lead to malabsorption and a decrease in the absorption of the needed vitamins and minerals.

Conditions that create stress will also increase the incidence of this disease. Poor water quality, improper nutrition, or overcrowding are all stressors that can cause a problem. Because the disease is often associated with older fish, there may be a link with decreased function of the immune system in these older fish and an increase in the incidence of the disease.

Signs

The signs include pitting-type lesions on the head and lateral line. The condition may be mild at first, but if changes to the environment and treatment are not initiated, the holes will become larger and secondary bacterial and fungal infections will develop. These lesions can eventually create a severe infection and the fish becomes systemically ill with loss of appetite and death.

Treatment

Because there may be multiple causes of this disease, the treatment usually consists of taking a multi-faceted approach. The goal is to rid the fish of *Hexamita*, improve water quality, and improve vitamin/mineral supplementation and nutrition.

A common treatment for infection with *Hexamita* includes the addition of the antibiotic metronidazole to the treatment tank housing the infected fish. Water quality must be closely watched, and the water quality adjusted to the exact standards required for the fish. Improving nutrition by adding fresh or frozen meaty foods or vegetables in the form of seaweed strips or lightly steamed broccoli may help. Make sure to target the nutrition to the species you are treating. For example, some cichlids are primarily vegetarians, whereas oscars are carnivores. In cases where secondary bacterial infections are present, additional antibiotics such as Maracyn, Kanacyn, or Furan may be needed. When treating this or any disease, try to use a separate treatment tank and treat as soon as the first symptoms appear.

Prevention

Prevention primarily focuses on reducing any stress affecting the fish. Stress, whether in the form of parasites, poor nutrition, or poor water quality all cause a suppression of the fish's immune system, which makes them more susceptible to this or any other disease.

If you own cichlids, oscars, or discus this is a disease that may occur in your tank. Be able to recognize the disease and take prompt steps to initiate early treatment; provide optimum water conditions; and feed the best possible diet. If managed and maintained properly, your fish should improve and not develop the disease again in the future.