

Icthyology

Viral diseases

Effect of virus infection in the cell These may be divided into:

- Early signs of visible changes such as cloudy swelling seen in histological preparations effects.
- Irreversible changes leading to death (CYP).
- Irreversible effects leading to damage or loss to a particular function (e.g. endocrine system).
- Transformation to a neoplastic state.

Effects of virus infection in the fish host

- The host shows no clinical disease and eliminates the virus.
- There are no clinical disease but infection persists (carrier state).
- The host develops clinical signs and dies.
- The host develops clinical disease, recovers and eliminates the virus.

- The host recovers from the clinical disease but the infection persist without clinical manifestations (carrier state).

Disease	Cause s	Symptoms	Treatment
1- Infectious Dropsy of Carp (I.D.C.) or Spring Viraemia of Carp (S.V. C)	<i>Rhabdo virus carpio</i>	Lethargy,ascitis and ulceration of organs hemorrhages on skin and gills, skin darkblack in color, loss coordination ,erratic swimming movement,exophthalmia	Viral diseases are impossible to control by chemotherapeutic methods. Unfortunately, vaccination methods for SVC are still very much at the experimental stages despite numerous trials

Disease	Causes	Symptoms	Treatment
2-Pox disease	<i>Herpes virus cyprini</i>	smooth, opaque, sometimes white, raised areas on the skin surface, almost completely cover the body surface, including the fins.	Use 1 cm ³ from Arycil solution for 3 days

3- Lymphocystis disease.

4- Cauliflower disease.

5- Viral hemorrhagic septicemia disease.

6- Infectious pancreatic disease.



Swim Bladder Affected by SVC

Lymphocystis virus disease :

Is a well known viral infection presenting a nodular skin lesions and is known in a variety of fresh water fish and sea water fish.

Pathology: • Small cream- coloured nodular lesion.



Control:

Release of virus take place when lymphocysts break down, and transmission is thought to take place via skin abrasion from parasitic or netting damage, Therefore, the best way is to isolate the affected fish as early as possible to prevent cross infection and allow the lesion to heal.



Fig. 2 Affected fish caused by Pox disease

Spring viremia of carp (SVC)

Spring viremia of carp (SVC) is a contagious viral disease mainly seen in farmed carp and related species. Outbreaks can cause substantial economic losses. SVC can be highly fatal in young fish, with mortality rates up to 90%. In Europe, where this disease has been endemic for at least fifty years, 10-15% of one-year-old carp are lost to SVC each year.

Etiology

Spring viremia of carp is caused by the spring viremia of carp virus (SVCV), which is also known as Rhabdovirus carpio. This virus is a member of the family Rhabdoviridae and has been tentatively placed in the genus Vesiculovirus.

Transmission

Transmission is by direct contact or through the water. The virus enters most often through the gills. SVCV has been found in ovarian fluids and “egg-associated” (vertical) transmission has not been ruled out; however, this does not appear to be an important route of spread.

Clinical signs:

- abdominal distension.
- exophthalmia.
- inflammation or edema of the vent (often with trailing mucoid fecal casts).
- petechial hemorrhages of the skin, gills and eyes.
- The body is often darkened with pale gills.
- Diseased fish tend to gather at the water inlet or sides of the pond.
- swim and breathe more slowly than normal.
- Loss of equilibrium.



Spring viraemia of carp in European carp. Note characteristic haemorrhagic skin, swollen stomach and exophthalmus ('pop eye')

reatment and Control

Keeping the water temperature above 20oC (68F) may help contribute to prevent a potentiation outbreak.

5-Viral haemorrhagic Septicemia

Clinical signs:

- Hemorrhagic : causes leaking of blood from vessels especially under the skin and internal organ.
- Septicemia: virus in blood and spreads throughout the body.
- Pop eye: pressure of hemorrhage beneath the eye.

6- Infectious pancreatic necrosis.

Pancreas is the first organ who infected, then bile and kidney and liver.