



ORIGINAL ARTICLES

Viral Diseases of Fish

¹Sharraf Moghaddasi Mohammad, ²Zarandy Soheil, ³Sharraf Raziye, ⁴Panahi Abbas

¹Agronomy and Plant Breeding Department, Saveh Branch, Islamic Azad University, Saveh, Iran.

²Faculty of Medicine, Qom Branch, Islamic Azad University, Qom, Iran.

³Department of Biology, Damghan Branch, Islamic Azad University, Damghan, Iran.

⁴Animal Science Department, Saveh Branch, Islamic Azad University, Saveh, Iran.

ABSTRACT

Viruses are very small infectious agents that multiply only within the living cells of an animal or plant host. Other microorganisms, such as bacteria or fungi, have organelles for their own metabolism, but viruses do not. They must utilize the machinery of the infected host cell for growth and reproduction. Viral diseases cannot be controlled with medication because they use the host's own cells for reproduction and survival. It is therefore prudent to provide "good nursing care" for fish suspected of having a viral infection so that their own natural defense mechanisms can work to eliminate infected cells. This involves maintaining excellent water quality, feeding fish a high quality diet, maintaining clean facilities, and keeping sick or potentially infected stock separate from all other animals.

Key words: Viral, Diseases, Fish, Viruses, metabolism

Introduction

We can divide fish's viral illness to two groups, public illness or systematic and unpublicized. First group are illnesses that virus spreads in all of body and create public tolls. In this state the illness appears in blood shape or poisonous septic. Most important of these illnesses include: viral hemorrhagic septicemia diseases (VHS), pancreas infectious necrosis illness (IPN), infectious necrosis of blood maker tissue (IHN), (SVC), free infectious anemia of fishes (ISA) the syndrome of red globule (EIBS) and hemorrhagic illness of sedge eating minnow (HD).

Second group are the illnesses that their tolls are positional and they aren't usually lead to losses. From this group of viral illness, we can point to minnow smallpox and lymphoid illness.

Totally fish's viral illness has several characteristics that distinguished them from another infectious and uninfected illness of fish:

- 1- Their pathogen is sensitive to temperature and usually outbreak in particular temperature and season of year.
- 2- There are with appropriate host. That may, suffer one kind or even a specific race of fish and it isn't transmit to another fishes that existence in the same term and same pool.
- 3- Generally create illness on particular ages. Usually child fishes suffering to illness in sharp shape and their losses are very high and upper ages are very insistent.
- 4- Surplus fishes of losses and elder fishes remain as illness porter and they are the transfer source to health fishes and newborns.
- 5- They don't respond to medical treatment (we can't treat illness by using of drug) using of drug help only with second agents of control, to prevent of illness involve.

Viral hemorrhagic septicemia (VHS):

It's an acute illness to chronic of rainbow salmon. First report about this illness had been accomplished in 1938 in Germany.

The agent epidemiology illness:

The agent of illness is a rabdo virus. This virus very tender to heat. It disappears in 60 degree of centigrade temperature on 15 minute. In zero degree can live for 24 hours but in -20 degree can live for lengthy period (12). The illness is spread at the most European countries and North America. This illness is peculiar to rainbow salmon and in another fishes had not been seen in natural form. The rainbow salmon is sensitive to that at its

Corresponding Author: Panahi Abbas, Animal Science Department, Saveh Branch, Islamic Azad University, saveh, Iran.
E-mail: memo1340@yahoo.com

whole age, but also in fishes less than 6 month of illness is very intensive and it can create high fatality. VHS is nearly season illness. In winter it can create intensive epidemic with much losses.

At spring, it decrease and in summer and autumn, it tearing off nearly. Decrease of losses adjective to temperature and in farms that they using from wellhead water, the water's temperature was limit 7-11°C and losses had been happened in all seasons.

Fishes with chronic or latent of illness maybe are real source of pollution and can transfer illness to health fishes. Latent shape of illness don't repulse virus but in stress qualification, had show torrid or chronic signs and start to repulsion of virus.

The transfer of illness always happen by polluted water to virus transferring by the way of egg (polluter generatrix) can possible too (15). The latent or dormancy circuit of illness in 15-16°C is nearly 15 day.

Bed-head signs and losses:

Fishes suffering usually at first showing hot signs of illness but gradually remain fishes, chronic and nervous signs of illness be revealed in fishes and decrease the percent of losses gradually, too.

The shape or phase of hot:

The illness had started with intensive losses and fishes showed the septicemia signs. At first, fishes had jaded and have unnatural swim. Some of fishes could see in corner of pool that, they are apathetical toward environment. Suffering fishes had been dark color and it witnessed the belly dilatation and salient of belly. It may in some of fishes have been seen menstruation in liver muscular tissue, kidneys, gonads, fats between viscera and other organs. The liver is colorless and sidling to yellow, kidneys and spleen being full blood and swollen. In histopato logic checking of tissue, degenerative necrotic changes in liver, spleen and blood-maker tissue of kidneys had been seen and usually had been seen inclusion body internal cytoplasm and inter core in some of cells.

Shape or phase of chronic:

It mid fewer losses. Fishes are dark color with pull out of eyes and very lean and are anemic. Sometimes, it had been seen damage but it hadn't seen menstruation. In cosmetology of fishes, kidneys and spleen are very swollen, the liver was color less and fats between viscera are diminish.

Nervous shape:

Fishes have unnatural swim sometimes, wind milling to its cycle or remain without motion in the corner of pool.

Distinction, prevention and control:

The distinction of illness on basis of clinical signs, exclusive damages and appropriative of illness and separating virus had been happened. The illness control is possible by using of egg and fishes naked of pollution for fosterage young fishes in water. That hadn't been polluted by another fosterage or troglodyte fishes to super virus. Effective vaccine are prepare against this illness. That, usable in areas that illness has native state. Also, observance of quarantine doctrine, selection the unbedraggled generatrix and observance of hygienic course in prevention of this illness is very important (Return to and of part for more detail).

In factious pancreatic necrosis illness (IPN):

This is a hot free illness of fishes that create intensive losses in baby fishes with age down 6 month. This illness had been reported from America, Europe and some Asian countries (15).

Agent and epidemiology of illness:

The agent of IPN illness is a Birnavirus. The 1-4 month fishes are sensitive to illness and losses came to 100% in these ages. Fishes upper 6 month are in sis tent to suffering the illness and in the way of pollution, remain as porter shape. The transferring method of illness is even horizontal and even vertical (even transferring from one fish to another fish and mother boning transferring). The porter fish repulse virus by the way of faces, urine and reproductive substances. Virus accedes to health fishes by the way of water. In factious opponent of eggs is ineffective on destroying the virus.

Signs and illness losses:

Baby fishes that suffering had showed signs spinning to itself, speed and jerky swim and then, they became inactive victims are very intensive and achieve to 100%, too. Emerging eyes, dilatation of belly and the existence of mokoedi mould in bowel and hanging from fish's denominator are another signs of sick fishes. In anatomize the bowel empty of food, colorless viscera and aggregation of Acid fluid had been seen. Very little menstruation in different point of body, especially pancreatic and kor pyloric bowels may observable. In histopathology of tissues checking. Acinar cells, and islets of langerhans of pancreatic had showed signs of necrosis, inclusion body inter cytoplasm often ozinofily in pancreatic cells had been seen.

Distinction:

Distinction of illness on the basis of headboard signs, exclusive and appropriative damages of illness and segregating of virus had been accomplished.

Prevention and control:

The control of illness by using of egg and fishes naked of pollution for bring up young fishes in water that didn't taint by training or wild fishes to super virus, is conceivable. With became infectious opponent of eggs we can't prevent of illness indication (virus can transfer on hyper-surface or inside of fish's egg). Effective vaccine against this illness had been prepared that usable in areas that illness have native situation.

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