Spring Viremia of Carp

Spring viremia of carp (SVC) is a contagious and potentially fatal viral disease affecting fish. As its name implies, SVC may be seen in carp in the spring time. However, SVC may also be seen in other seasons (especially in the fall) and in other fish species including goldfish and the European wells catfish. Until recently, SVC had only been reported in Europe and the Middle East. The first cases of SVC reported in the United States were in Spring 2002 in cultivated ornamental common carp (koi) and wild common carp. The number of North American fish species susceptible to SVC is not yet known.

Signs of SVC in Fish

The first signs of SVC disease in fish may be a change in behavior. The diseased fish may breathe and move more slowly, form groups in slow–flowing water near the pond bank, and lie on their side at the pond bottom. On the outside of a fish with SVC, the skin and gills may appear dark red, the eyes may bulge outward, the belly may be swollen, and bloody mucus may hang from the vent. On the inside of a fish with SVC, a lot of fluid may be in the belly cavity and internal organs, blood in the swim bladder, and reddening and swelling of the gut. However, not all fish showing these signs necessarily have SVC, as these same signs may also be seen in many other diseases. Those fish that don't die from SVC may recover and appear healthy, but these fish actually may remain infected with the SVC virus and continue to shed and spread the virus to other fish. Because the SVC virus may remain hidden in infected fish, the disease is difficult to eliminate from a site. Diagnosis of the SVC virus in fish can be confirmed through virus isolation and other sophisticated diagnostic tests done by an approved laboratory.

SVC Spread and Control

The spread of SVC may occur through contact with water contaminated with the infected fish's feces, urine, or mucus. The virus may be spread through contaminated equipment, fish parasites, predatory birds, and on the outside of an infected fish's eggs. Once SVC is established at a site, it may be difficult to eradicate because of virus–infected carrier fish. It may be necessary to destroy all aquatic life in a pond to eliminate the disease from the site.

Although complete eradication is difficult, SVC can likely be controlled and contained within high–risk zones through surveillance and better management practices, including strict biosecurity procedures. People may transmit the virus with them from place to place on their clothing, footwear, equipment, etc., but the virus does not cause disease in humans. There has never been a single report of humans being infected with the SVC virus either from contact or from eating an infected fish.

SVC Prevention Information for Hobbyists

Hobbyists who actively transport and show their fish in organized competitive koi shows should only show their fish in English–style shows. In English–style shows, each participant's koi are kept in separate show tanks. From a disease transmission viewpoint, most aquatic animal health professionals recommend the English–style shows. Good biosecurity measures (e.g., avoidance or disinfection of any potentially infected, shared equipment) while at a show is highly recommended and will also protect fish from infection by the highly contagious koi herpes virus and other communicable diseases.

SVC Prevention Information for Anglers

Anglers should not transfer fish or fish parts from one body of water to another, as this practice not only risks spreading the SVC virus and other disease–causing agents, but also risks spreading non–native fish and other aquatic nuisance species. Anglers should use only disease–free bait purchased from commercial producers. If a large number of dead or dying fish is observed in a natural body of water, anglers should contact the game and fish department of their State natural resources agency.

SVC Prevention Information for Producers

There are several recommendations for preventing SVC from becoming established on commercial farms. Using a source of water that is free from disease such as a spring or well is necessary, especially in an area where the disease is known to exist. Other on–farm measures include disinfection of eggs by iodophore treatment, regular physical and chemical disinfection of ponds, disinfection of equipment, and proper disposal of dead fish. Also, new fish being brought onto farms should be purchased from a source known to be free

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of SVC. Bringing new fish, especially cyprinids including carp, koi, and goldfish, onto a fish farm should be undertaken only with great caution.

Currently, no vaccine for SVC is commercially available in the United States. SVC is an Office International des Epizooties (OIE) List B, reportable disease, and the United States Department of Agriculture is required to report any outbreaks to the OIE. If a producer suspects SVC, he or she should contact, as soon as possible, the State veterinarian or the local Animal and Plant Health Inspection Service's Veterinary Services office.

Additional Information

Current information on aquatic animal diseases and suspected outbreaks is available on the Internet at http://www.aphis.usda.gov/vs/aqua/aquaphis.html. For more information contact:

USDA, APHIS, VS
Emergency Programs Staff
4700 River Road
Riverdale, MD 20737
Phone: (301) 734–8073

International Association of Fish and Wildlife Agencies on the Internet at http://www.iafwa.org to obtain a listing of all State and provincial contacts, or by phone at (202) 624–7890.

National Association of State Aquaculture Coordinators on the Internet at http://www.ncagr.com/aquacult/NASAC.html to obtain a contact for all State aquaculture regulatory agencies, or by phone at (916) 653–9583.

NOAA Fisheries on the Internet at http://www.nmfs.noaa.gov, or by phone at (301) 713–2379.

North Carolina Wildlife Resources Commission on http://www.ncwildlife.org, or by phone at (919) 733–3633.

Unversity of Florida
Institute of Food and Agricultural Sciences on the Internet at http://edis.ifas.ufl.edu or by phone at (352) 392–9617

U.S. Fish and Wildlife Service Fish health Centers at http://fisheries.fws.gov/FHC/FHCcu.htm or by phone at (703) 358–1856.

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