Outbreak of viral haemorrhagic septicaemic (VHS) in seawater-farmed rainbow trout in Norway caused by VHS virus genotype III - DTU Orbit (11/01/2019)

Outbreak of viral haemorrhagic septicaemic (VHS) in seawater-farmed rainbow trout in Norway caused by VHS virus genotype III

We describe the finding of a novel viral haemorrhagic septicaemia virus (VHSV) Genotype III strain that caused disease of both a neurological and septicaemic nature in seawater-farmed rainbow trout Oncorhynchus mykiss in Storfjorden, Norway. In November 2007, an outbreak of VHS associated with slightly elevated mortality was confirmed at a seawater site rearing rainbow trout (90 to 440 g). Within 3 to 4 mo, the disease was recognised in 3 neighbouring sea sites with on-growing rainbow trout. The clinical, gross pathological and histopathological findings were in accordance with VHS, and the diagnosis was confirmed by the detection of VHSV in brain and internal tissues by immunohistochemistry, cell culture and reverse transcriptase PCR (RT-PCR). Sequence analysis of the G-gene revealed that the isolated virus clustered with VHSV Genotype III and that the Norwegian isolate represents a unique strain of VHSV. The pathogenicity of the virus strain to rainbow trout and Atlantic salmon Salmo salar was examined using infection experiments. In immersion trials, the Norwegian isolate produced a cumulative mortality of 70% in rainbow trout, while nearly 100% mortality was obtained after intraperitoneal injection of the virus. For Atlantic salmon, no mortality was observed in immersion trials, whereas 52% mortality was observed after intraperitoneal injection. The Norwegian isolate thus represents the first VHSV of Genotype III pathogenic to rainbow trout.

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