

Study of Koi Herpes Virus Disease (KHVD) in Some Carp farm of Iran: A Molecular and Pathological Study

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Abstract

Koi herpesvirus (KHV) is a highly contagious virus that causes significant mortality up to 100% in carp varieties. Considering the annual and significant casualties in carp farms, especially in Khuzestan province farms, there is a possibility of viral disease in these farms. The aim of this study was to detect the virus that causes KHVD in these farms. By referring to 14 farms with casualties during the years 2015-2016, fish were immediately slaughtered. Gill and kidney tissue samples were taken for one gram of sample and placed in 80% alcohol, and labeled for laboratory process, and transferred to the laboratory. Then by Nested PCR (Kit IQ2000) were studied. To study the pathology of gills, kidneys, liver, brain, heart and intestines samples were taken from four species of carp (common carp, grass carp, bighead carp and silver carp) and 10% formalin was used. The results of the PCR for 7 samples of the tested specimens in the provinces of Khuzestan and Gilan by creating bands 229 and / or 440 bp positive for KHV disease was diagnosed. In the pathological studies of gill tissue, epithelial hyperplasia of the secondary lamella enclosure with the infiltration of inflammatory cells, often single-nuclei (especially lymphocytes), was observed in most tissue sections. Also, in a number of examined sections, acute necrotic lesions of epithelium cells were observed. In the study of the kidney tissues, most sections of the normal structure were present and only in a small number of urinary tubules, especially proximal tubules, cellular swelling was observed in the epithelium. Intranuclear inclusion body was observed in a number of brain, heart and intestinal cells in the form of marginal chromatin. The results of this study indicate that some carp farm of Iran has been affected by KHV disease, which can be considered as one of the factors contributing to the occurrence of summer mortality syndrome in carp.

Key words: Herpes, Virus, Carp, Molecular, Pathology

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