

Molecular Detection of Norwalk Virus in carp Fish and shrimp ponds in the Khoozestan Province-Iran by RT-PCR Method

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Abstract

Background: The aquatic foods origin has Norwalk virus's human contamination potentially .It causes viral gastroenteritis.

Objectives: The main aim of the study was the investigation of the Norwalk virus in different aquatic animal sources in Khuzestan provinces-Iran.

Materials and Methods: 40 pieces of fish (silver carp, common carp, big head, and Grass carp species) and 10 pieces of shrimps were caught from ponds, and samples were transferred to the laboratory by ice bag. After intestinal separation, the content of the intestine was extracted, using two sterile filters. Then the supernatant was used for the RT-PCR process by using the Calicivirus family-specific gene (p289 / 290 gene). Then specific Norwalk virus detection (NVp36/ NVp35 gene) was investigated in Calicivirus positive samples.

Results: The results showed 8% (4 samples) and 6% (3samples) of the samples were infected with Calicivirus family (p289 / 290 gene) and Norwalk virus (NVp36/ NVp35 gene). Among Calicivirus positive samples common carp, silver carp, and shrimp showed two, one and one other positive samples, respectively. Two and one Norwalk virus-positive samples were related to common carp and shrimp, respectively. In other words, the highest amount of virus was observed in aquatic fish feeding from the bottom of the pool. Due to the fact this species breeds with other species and on the other hand this virus lives in the gastrointestinal tract, so the consumption of feces of other infected organisms can lead to an increase of this virus in the Carp digestive system.**Conclusion:** Therefore, due to the importance of Norwalk as a zoonotic disease and the possibility of human infection, through aquatic consumption, preventive measures such as not using animal manure for fertilization and phytoplankton growing in aquaculture ponds and full cooking meat concluded.

Biography:

Zohreh Mashak has her expertise in food (hygiene; quality control and safety). Her experience in research ;teaching open is about 1996-2021 at Department of Food Hygiene ;Karaj Branch ,Islamic Azad University,Karaj-Iran.Her research interest are; Food irradiation(ostrich meat and carp;trout;and shell eggs); Microbiology of RTE. Microbiology of traditional jarcheese.; Microbiology of Traditional dairy -cereals Fermented products (probiotics).; Antimicrobial effects of Essential oils.; Antimicrobial effects on the use of various biodegradable packaging (chitosan, poly-lactic acid ;gelatin and Nano-chitosan) in chicken meat food.; Antimicrobial effects of smoking in fishmeat.;Study of various mycotoxins in a variety of dairy and cereal products.; Investigating unauthorized tissue in different kinds of meat products(homemade and industrial burgers), Kobideh Kebab (red and poultry meat), sausages and minced meat;halal food; Evaluation of different types of microbial contamination and prevalence of genotyping and phenotyping (E. coli, Campylobacter,Staph. aureus and listeria monocytogenes,pesudomonas ,Acinetobacter bumanii), along with the identification of various antibiotic resistance in various types of livestock and poultrymeat; Milk and dairy products.

Citation: Parisa Shojaee , Molecular Detection of Norwalk Virus in carp Fish and shrimp ponds in the Khoozestan Province-Iran by RT-PCR Method, Food Microbiology 2021,Tokyo,Japan.