Short Communication

A Preliminary Report on contamination of meat of cultured rainbow trout to *Vibrio* spp. in Chaharmahal va Bakhtyari Province

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A total number of 30 fish samples were randomly selected for evaluation of possible infection to *Vibrio* spp. The samples were transferred into cool boxes with an internal temperature of +2 to +5 °C within a short time. The samples of flesh were subcultivated on Thiosulfate Citrate Bile Salts Sucrose agar (TCBS, BD Diagnostics, Heidelberg, Germany) and on modified Cellobiose Polymyxin-B Colistin agar (mCPC). After incubation at 37 °C for 24h, the isolates were used for further screening tests including Gram staining, oxidase and catalase tests and culture in SIM and TSI media and other biochemical tests described by Hosseini et al., (2004). The results showed that Twenty percent of studied fishes (6/30) were infected to *Vibrio* which is considerable.

Keywords: Rainbow trout, *Vibrio*, Chaharmahal va Bakhtyarimeat, meat, disease

INTRODUCTION

Vibrios are generally salt-tolerant organisms occurring naturally in marine and brackish-water environments in both tropical and temperate regions, although some species also occur in fresh water. Vibrios have isolated from finfish, crustaceans, mollusks, plankton and also sediments. Some human pathogenic *Vibrio* spp. may also be fish pathogens. In general, the infectious dose necessary to cause intestinal disease is high, and the risk associated with eating fish is therefore likely to be high. Vibriosis is associated with the consumption of raw fish or fishery products as there are many reported cases resulting from the consumption of farmed finfish. Genus *Vibrio* includes Gram-negative, facultative anaerobic, non-spore-forming bacilli which are oxidase positive and halophilic. Vibrios are generally salt-tolerant organisms occurring naturally in marine and brackish-water environments in both tropical and temperate regions, although *Vibrio cholerae* and *V. mimicus* also occur in fresh water. Vibrios have also been isolated from sediments, plankton, molluscs, finfish and crustaceans (Tall, et al., 2003). The objective of this study was to examine the distribution of *Vibrio* species in rainbow trout in Chaharmahal va Bakhtyari Province.

MATERIALS AND METHOD

Sample collection and preparation

Overall 30 fish samples were randomly selected for evaluation of possible infection to *Vibrio* spp. Straight after collection, the samples were transferred into cool boxes with an internal temperature of +2 to +5 °C. During the transport to the laboratory, the temperature was continually recorded with a logger (Testo 174, Testo GmbH & Co., Lenzkirch, Germany). All samples were processed within a short time after arrival.

Bacteriological Analysis

The analysis for *Vibrio* spp. took place according to the method described by Bockemühl, 1992. As a first step 225 ml of alkaline peptone water (APW) was added to 25 g of homogenized flesh and incubated at 37 °C. The samples of flesh were subcultivated on Thiosulfate Citrate Bile Salts Sucrose agar (TCBS, BD Diagnostics,
RESULTS AND CONCLUSION

Thirty samples were analyzed for Vibrio spp. 30% (6 samples) contained one or more vibrios. A total of 6 Vibrio isolates were differentiated in our study including Vibrio alginolyticus, V. parahaemolyticus, V. vulnificus, V. cholera and V. harveyi. This distribution of the different species is in accordance with former findings in mussels (Matté et al., 1994) and in sea water (Barbieri et al., 1999). Some human pathogenic Vibrio spp. may also be fish pathogens. In general, the infectious dose necessary to cause intestinal disease is high, and the risk associated with eating fish is therefore likely to be low. Although more than 150 serotypes have been identified, only V. cholerae O1 and O139 cause cholera; non-O1 V. cholerae can cause diarrhea, abdominal cramps, nausea and fever. While cholera has been associated with the consumption of raw fishery products, there are no reported cases resulting from the consumption of commercially imported farmed finfish and crustaceans.

REFERENCES


