

Rapid detection and E-test antimicrobial susceptibility testing of *Vibrio parahaemolyticus* isolated from seafood and environmental sources in Malaysia.

ABSTRACT

Objectives: To find out the prevalence and antimicrobial susceptibility of *Vibrio parahaemolyticus* in seafoods and environmental sources. **Methods:** The study was carried out at the Center of Excellence for Food Safety Research, University Putra Malaysia; Universiti Kebangsaan Malaysia; Medical Molecular Biology Institute; and University Kebangsaan Malaysia Hospital, Malaysia between January 2006 and August 2008. One hundred and forty-four isolates from 400 samples of seafood (122 isolates) and seawater sources (22 isolates) were investigated for the presence of thermostable direct hemolysin (tdh+) and TDH-related hemolysin (trh+) genes using the standard methods. The E-test method was used to test the antimicrobial susceptibility. **Results:** The study indicates low occurrence of tdh+ (0.69%) and trh+ isolates (8.3%). None of the isolates tested possess both virulence genes. High sensitivity was observed against tetracycline (98%). The mean minimum inhibitory concentration (MIC) of the isolates toward ampicillin increased from 4 ug/ml in 2004 to 24 ug/ml in 2007. **Conclusions:** The current study demonstrates a low occurrence of pathogenic *Vibrio parahaemolyticus* in the marine environment and seafood. Nonetheless, the potential risk of vibrio infection due to consumption of *Vibrio parahaemolyticus* contaminated seafood in Malaysia should not be neglected.

Keyword: *Vibrio parahaemolyticus*; Seafoods; Antimicrobial; E-test method; Food contamination.