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The determination of virulence factors among fish originated Enterococci

Serap Savasan¹, Sukru Kirkan¹, Goksel Erbas¹, Ugur Parin¹ and Alper Ciftci²

¹Adnan Menderes University, Turkey

²Ondokuz Mayıs University, Turkey

Statement of the Problem: Enterococci are commensal organisms of human and animals, and may cause diseases in particular conditions. Several virulence factors are responsible in the production of diseases. The aim of this study was to isolate enterococci from fish and to determine virulence factors of the isolates.

Methodology & Theoretical Orientation: In this study, 200 fish samples that were collected from different commercial fish farms establishment in Aegean region from Turkey. For isolation, samples were inoculated to selective medium and for the identification at the level of the genus, Gram staining, catalase tests on slide, gas reproduction from mannitol and reproduction at 45°C were made to presumptive positive colonies. The strains that gave positive results in these tests and were denominated as *Enterococcus* spp. have been observed for their various phenotypic and biochemical properties to identify them at species level. For genomic identification of enterococci for being *E. faecalis*, *ddl* gene targeted PCR was performed. Measurement of the Aggregation Substance (AS) of the enterococci was performed by clumping assay. Gelatinase (Gel) activity of enterococci was tested in gelatine medium. The detection of cytolysin activity was made in blood agar.

Findings: A total of 26 (13%) *E. faecalis* strains were isolated from live, moribund and dead fish collected from fish farms in Aegean Region. Cytolysin production was not detected in any of *E. faecalis* strains. Of 26 strains tested, 27% was found to produce AS. Gel activity was found in 11.5% of strains.

Conclusion & Significance: The presence of strains with important virulence factors in enterococci from fish was established. It was suggested that these strains have the potential of producing disease in human and animals.

Biography

Alper Ciftci is an expert in Molecular microbiology and vaccine development. He finished his PhD at Ankara University, and now he works as associate professor at Ondokuz Mayıs University, Samsun, Turkey. He focuses on working development and validation of commercial products such as vaccine and diagnostic kits.

aciftci@omu.edu.tr

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