Short Communication

Antibacterial effect of Methanolic extract of *Camellia Sinensis L.* on *Pseudomonas aeruginosa* strains producing β-lactamases

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Abstract

Background and Objective: *Pseudomonas aeruginosa* is one of the important causes of nosocomial infections. Extended spectrum-beta Lactamases (ESBLs) and Metallo-beta Lactamase (MBL) producing strains have become resistant against a wide range of antibiotics. The aim of this study was to determine the effect of Methanol extract of *Camellia Sinensis* on *Pseudomonas aeruginosa* producing ESBL isolated from burnt wounds of patients.

Materials and Methods: This descriptive study was done on burnt wounds of 245 hospitalized patients in Shafa hospital, Kerman, Iran during 2006-07. ESBLs producing strains were detected by phenotypic confirmatory test and also E-test strips were used for MBL detection. *P.aeruginosa* MIC was determined for Cefotaxime, Ceftazidime, Azteronam, Imipenem, Meropenem and methanol extracts of plant *Camellia Sinensis* prepared by Maceration method.

Results: 120 of burnt wound infected with *P.aeruginosa*, out of them 41 isolates contained ESBL while lacked MBL. 60% of isolates were resistant to Cefotaxime, 66% to Ceftazidime, 42% to Azteronam, 3% to Imipenem and 5% to Meropenem. Among the extracts, green Tea had the highest antibacterial effect on standard strains and *P.aeruginosa* producing ESBLs in 1.25mg/ml concentration.

Conclusion: This study showed that methanolic extract of green tea has higher antibacterial effect aginast β-lactamase *P.aeruginosa* strains than Cefotaxime and Ceftazidime.

Keywords: *Pseudomonas aeruginosa*, ESBL, Antibiotic Resistance, *Camellia Sinensis*

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