

5th International Conference on

PARASITOLOGY & MICROBIOLOGY

July 12-13, 2018 Paris, France

Evaluation of antimicrobial resistance pattern and virulence genes characterizations of *Pseudomonas aeruginosa* isolated from salad samples

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Introduction & Aim: *Pseudomonas aeruginosa* is the major cause of nosocomial infections and is considered as an opportunistic pathogen. Several reports indicate that the organism can also cause infections in healthy hosts. Further, evidence has suggested that there are no major differences in virulence between clinical and environmental isolates. Consuming raw vegetables that have been contaminated by this organism could have serious implications on human health. The aim of this study was to identify *Pseudomonas aeruginosa* virulence factor genes (*Exotoxin A*, *Exoenzyme S*, *Elastase* and *Alginate genes*) which isolated from salads.

Materials & Methods: In this cross-sectional study, 200 salad samples were collected from restaurants located in Qazvin during 6 months. After identification of isolates by biochemical tests, the antibiotic susceptibility test (Kirby-Baur method) was done according to CLSI advice against 13 antibiotics. After DNA extraction from isolates, PCR with specific primers were done for detection of (*Exotoxin A*, *Exoenzyme S*, *Elastase* and *Alginate genes*).

Results: *Pseudomonas aeruginosa* was isolated from 12.5% of samples. Cefotaxime with 95% and imipenem with 21/6% showed the highest and lowest resistance against isolates respectively. Frequency of (*Exotoxin A*, *Exoenzyme S*, *Elastase* and *Alginate genes*) were 44%, 16%, 44% and 44%, respectively.

Conclusion: Our results showed that the frequency of *Pseudomonas aeruginosa* in salads was high. This study confirms the rapidity and sensitivity of PCR analysis in identifying isolates which contribute in early monitoring, accurate analysis and control of microbial risks in food products

Biography

Aisan Asalipisheh has Completed Her Master's at the age of 36 years Zanjan Azad University in Iran. She is a Microbiologist and Hygienist and Microbiology lab Manager at Unilever company, and before that used to work as Microbiologist in Mahram Company (Sauce and dressing) and also microbiology lab Manager at Gelatin Halal Company.

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