

عنوان مقاله:

Detection and Frequency of Enterotoxin (cpa,cpe) Genes of Clostridium perfringens Isolated from Dehydrated Vegetables by PCR

محل انتشار:

مجله علمی پژوهشی دانشگاه علوم پزشکی زنجان, دوره 29, شماره 133 (سال: 1399)

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نویسندگان:

Sedighe Ghourchian - *Division of Food Microbiology, Dept. of Pathobiology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran*

Masoumeh Douraghi - *Food Microbiology Research Center, Tehran University of Medical Sciences, Tehran, Iran*

Akram Baghani - *Food Microbiology Research Center, Tehran University of Medical Sciences, Tehran, Iran*

Mohammad Mehdi Soltan Dallal - *Division of Food Microbiology, Dept. of Pathobiology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran*

خلاصه مقاله:

Background and Objective: Clostridium perfringens is an anaerobic bacterium, commonly present in retail foods. Its enterotoxin-producing ability, short generation time, ability to grow at elevated temperatures, and spore-forming ability, allows it to survive in food-processing temperatures, and cause foodborne illness. The aim of study was to screen dehydrated vegetables contaminated with cpe and cpa carrying C.perfringens. **Materials and Methods:** This is descriptive-analytical study, was carried out on 140 samples (70 unpacked and 70 packed) dehydrated vegetables collected from different areas of Tehran. Samples were inoculated on peptone and sulfite polymyxin sulfadiazine (SPS) agar for enrichment. The enrichment culture was then incubated on anaerobic condition for 48 hours. The black colonies were selected for identification test and PCR. The bacterial colonies were identified by biochemical tests, and duplex PCR was performed for α -toxin (cpa) and enterotoxin (cpe) genes. **Results:** In general 13 samples (9.3%) were identified as C. perfringens using phenotypic methods, all of the isolates were also positive for cpa but negative for cpe gene. The contamination rate for packed vegetables was 12.8% and for unpacked was 5.7%. **Conclusion:** Our finding showed that contamination of packed dehydrated vegetables was higher than unpacked; this might be due to drying as well as packaging process. We found that these isolates were negative for enterotoxin

کلمات کلیدی:

Clostridium perfringens, Dehydrated Vegetables, Enterotoxin

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