عنوان مقالات

چهارمین کنگره میکروب شناسی بالینی ایران

۲۰-۱۸ آبان ماه ۱۳۸۹، اصفهان/ ایران

چهارمین کنگره
میکروب شناسی بالینی ایران
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برنامه زمانی و عنوان مقالات

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۱۸-۲۰ آبان ماه ۱۳۸۹

دبیر همایش: دکتر سید ناصرالدین مصطفوی

برگزارکننده:

مرکز تحقیقات بیماری های عفونی و گرمسیری

دانشگاه علوم پزشکی و خدمات بهداشتی درمانی اصفهان

❖ **PBB62**

PCR detection of staphylococcal enterotoxin A and C genes in Staphylococcus aureus strains isolated from bulk tank milk samples in Mashhad

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Introduction and objectives: Staphylococcal food poisoning is resulting from consumption of food contaminated with staphylococcal enterotoxins (SEs) produced by Staphylococcus aureus. Milk is a good substrate for S. aureus growth and enterotoxin production. In addition, enterotoxins retain their biological activity even after pasteurization. This study aimed to analyze the frequency of genes encoding the staphylococcal enterotoxins A and C in S. aureus strains isolated from bulk tank milk samples in Mashhad dairy industry farms.

Materials and methods: To determine the distribution of genes that encode enterotoxins A and C, 46 strains of Staphylococcus aureus isolated from raw bulk tank milk samples of dairy industry farms in Mashhad analyzed by PCR.

Results: Of the 46 strains studied, 31 (67.39%) strains were positive for genes encoding the enterotoxins A (SEA) and C (SEC). The gene coding for enterotoxin C, was the most frequent (21 strains, 45.65%), followed by SEA (7 strains, 15.22%), SEA+SEC (3 strains, 6.52%).

Conclusion: The results provided evidence that the presence of enterotoxigenic S. aureus has become widespread in milk. Enterotoxigenic Staphylococcus aureus in raw milk poses a potential health hazard to consumers, and the identification of such strains and better control of sources of milk contamination should be used as part of a risk analysis of milk and milk products .