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:

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Prevalence and antibiotic susceptibility of Staphylococcus aureus in bulk tank milk samples of dairy industry farms in Mashhad

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Introduction and objectives: Milk is considered a nutritious food because it contains several important nutrients including proteins and vitamins. Conversely, it can be a vehicle for several pathogenic bacteria such as Staphylococcus aureus. Staphylococcus aureus is a known major cause of foodborne illnesses, and milk and dairy products are often contaminated by enterotoxigenic strains of this bacterium.
The aim of this study was to estimate the prevalence and antibiotics resistance of Coagulase – Positive Staphylococcus aureus in milk collected from bulk tank milk in Mashhad .

Materials and methods: A total of 250 bulk tank milk samples were collected from dairy farms during 1388 and 1389. Raw milk samples were transferred to laboratory in safe conditions and samples were tested for the presence of Staphylococcus aureus on the basis of conventional methods and confirmed by polymerase chain reaction (PCR). The antimicrobial susceptibility of isolates was determined against 14 antimicrobial agents using the disk diffusion method and performed according to NCCLS guidelines in the Mueller-Hinton agar.

Results: Of the 250 bulk tank milk samples tested, S. aureus was isolated from 46 (18.4%) samples at average concentrations of 3.5 × 105 CFU/ml. The antibiotic susceptibility test results showed that 40 (86.95%) of the isolates were resistant at least to one of the antibiotics tested. The highest level of antibiotic resistance was observed against penicillin (97.5%) and followed by ampicillin (87.5%), methicillin (62.5%) and amoxicillin (57.5%). None of the isolates was resistant to vancomycin and gentamycin.

Conclusion: In conclusion, regarding high levels of staphylococcal contamination in milk and remarkable levels of resistance against some antibacterial agents, milk products may play a substantial role in prevalence of antibacterial resistance and related hygienic problems.