

Investigation of Enterotoxigenic Staphylococcus aureus in Kitchen of Catering

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Abstract : This study has been done for the purpose of evaluation of public health and identifying of enterotoxigenic Staphylococcus aureus in kitchen of catering. In the kitchen of catering, samples have been taken by swabs from surface of equipments which are in the salad section, meat section and bakery section. Samples have been investigated with classical cultural methods in terms of Staphylococcus aureus. Therefore, as a 10x10 cm area was identified (salad, cutting and chopping surfaces, knives, meat grinder, meat chopping surface) samples have been taken with sterile swabs with helping FTS from this area. In total, 50 samples were obtained. In aseptic conditions, Baird-Parker agar (with egg yolk tellurite) surface was seeded with swabs. After 24-48 hours of incubation at 37°C, the black colonies with 1-1.5 mm diameter and which are surrounded by a zone indicating lecithinase activity were identified as S. aureus after applying Gram staining, catalase, coagulase, glucose and mannitol fermentation and termonuclease tests. Genotypic characterization (Staphylococcus genus and S.aureus species specific) of isolates was performed by PCR. The ELISA test was applied to the isolates for the identification of staphylococcal enterotoxins (SET) A, B, C, D, E in bacterial cultures. Measurements were taken at 450 nm in an ELISA reader using an Ridascreen-Total set ELISA test kit (r-biopharm R4105-Enterotoxin A, B, C, D, E). The results were calculated according to the manufacturer's instructions. A total of 50 samples of 97 S. aureus was isolated. This number has been identified as 60 with PCR analysis. According to ELISA test, only 1 of 60 isolates were found to be enterotoxigenic. Enterotoxigenic strains were identified from the surface of salad chopping and cutting. In the kitchen of catering, S. aureus identification indicates a significant source of contamination. Especially, in raw consumed salad preparation phase of contamination is very important. This food can be a potential source of food-borne poisoning their terms, and they pose a significant risk to consumers have been identified.

Keywords : Staphylococcus aureus, enterotoxin, catering, kitchen, health

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