

4th International Conference on

Medical Microbiology

May 20-21, 2019 | Vienna, Austria

Hand hygiene assessment of staff working in food processing units by detecting germs of the genus *Staphylococcus*

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Staphylococcus aureus is commonly worn by seemingly bealthy people (usually on the nasal mucosa and on the skin). Frequency of wearers is higher among people who present or have experienced boils, panartists, or various wounds in the skin. The main danger of food contamination with bacteria of the genus Staphylococcus, consists in the development by some strains (coagulase - positive) of an enterotoxin capable of causing acute gastroenteritis in humans. Staphylococcal enterotoxin is thermostable, which is why it is difficult or even impossible to inactivate it after its development. Produces intoxications with a short incubation period even after 30 minutes after ingestion, generally after 3-6 hours. The risk of intoxication increases because the growth of these bacteria does not necessarily cause changes in the taste and smell of the food even when the number is high. The collection of sanitation samples was made from several food processing units from hard-to-reach points (30%) and from the surfaces with which the food came into direct contact (work tables, tops, walls, etc.) (70 %). Depending on the surface, the number of samples taken was 7, for areas less than 1000 m² and 12 for areas larger than 1000 m².

Randomized samples were also taken from the hands of the workers involved in the different processing steps, accounting for 5% of the total number of employees. On Baird - Parker, typical colonies of Staphylococcus aureus presented a blackish - gray, bright, convex color, approximately 1.5-2 mm in diameter after 48 hours of incubation, surrounded by a clear or sometimes opalescent area. Atypical colonies also considered "background flora", have the same characteristics but without the presence of clear or opalescent areas. For confirmation, gram stained smears were performed and examined by microscope with a 100x immersion objective. The number of positive samples was 3.7%, of which 0.6% coagulase positive Staphylococcus were isolated. Of the total positive samples, 87% were taken from the hands of the staff, 6% from the worktops, 3% from the floors and 4% from the other surfaces. Staff working in the food industry is the main potential source of microbiological contamination with bacteria of the genus Staphylococcus, which is why the proportion of sanitation samples taken from food processing units must be the hands of the staff.

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