

Title Evaluation of growth and transfer of *Staphylococcus aureus* from poultry meat to surfaces of stainless steel and polyethylene and their disinfection

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Abstract

The growth of *Staphylococcus aureus* inoculated onto poultry meat was investigated under different incubation periods and temperature patterns. Transfer of this microorganism to surface materials and their disinfection was also evaluated. The evaluation of transfer was carried out by placing the contaminated meat cubes on stainless steel and polyethylene surfaces for 10 s and 10 min each, and the surfaces were disinfected with 0.5% chlorhexidine digluconate (CHXdG) for 1 and 10 min each. After 24 h, there was a significant increase of the bacteria count at 20 °C, but not at temperatures between 7 and 15 °C. Significant counts of *S. aureus* were transferred after a few seconds of contact of the cubes with both materials, and significant differences of transferred cell counts were not detected among the surface materials or durations of contact. The CHXdG solution was able to inactivate all the transferred cells after 10 min of exposure; however, the same result was not observed with 1-min exposure. The time of contact and the type of surface material did not influence the quantity of the transferred cells. The 0.5% CHXdG solution was effective for the disinfection of the contaminated surfaces without previous cleaning.