Staphylococcus aureus isolated from pork and chicken carcasses in Taiwan: prevalence and antimicrobial susceptibility

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摘要

Abstract

Staphylococcus aureus is a cause of many diseases in both humans and animals. This pathogen is also a major target in the screening of slaughterhouse carcasses to monitor hygienic conditions during slaughter. During 2004 to 2006, S. aureus was recovered from 8.8% (38 of 430), 11.3% (77 of 680), and 4.3% (13 of 300) of pork carcass samples, respectively, collected at 53 slaughterhouses in Taiwan. During 2003 to 2005, it was recovered from 0.3% (1 of 305), 0.4% (1 of 260), and 7.8% (31 of 395) of rinse fluids from chicken carcasses, respectively, collected at 17 meat processing plants. The minimum dilution method was used to determine antimicrobial susceptibility (MICs) of these strains (n = 103) as well as those collected from pork and chicken carcasses (n = 104) in a previous study beginning in 2000. All 207 strains were sensitive to nitrofurantoin and vancomycin. Over 50% were resistant to clindamycin (MIC that inhibited 90% of strains [MIC90] = 32 microg/ml) and tetracycline (MIC90 = 64 microg/ml). The percentages resistant to methicillin (oxacillin), chloramphenicol, erythromycin, and tylosin were 19.4% (40 of 207), 18.8% (39 of 207), 23.2% (48 of 207), and 20.8% (43 of 207) with MIC90s of 8, 64, > or = 64, and > or = 128 microg/ml, respectively. The methicillin-resistant S. aureus (MRSA) strains exhibited resistance to more antibiotics than did the methicillin-susceptible strains, and 87.5% (35 of 40) of the MRSA strains carried the mecA gene sequence. Since MRSA infections have become a public health concern in both communities and hospitals, testing for the presence of MRSA in animal carcasses during slaughtering operations is warranted.