MRSA and Multidrug-resistant *Staphylococcus aureus* in U.S. Retail Meats, 2010-2011

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**Abstract**

Methicillin-resistant *Staphylococcus aureus* (MRSA) has been detected in retail meats, although large-scale studies are scarce. We conducted a one-year survey in 2010-2011 within the framework of the National Antimicrobial Resistance Monitoring System. Among 3520 retail meats collected from eight U.S. states, 982 (27.9%) contained *S. aureus* and 66 (1.9%) were positive for MRSA. Approximately 10.4% (107/1032) of *S. aureus* isolates, including 37.2% (29/78) of MRSA, were multidrug-resistant (MDRSA). Turkey had the highest MRSA prevalence (3.5%), followed by pork (1.9%), beef (1.7%), and chicken (0.3%). Whole-genome sequencing was performed for all 66 non-redundant MRSA. Among five multilocus sequence types identified, ST8 (72.7%) and ST5 (22.7%) were most common and livestock-associated MRSA ST398 was assigned to one pork isolate. Eleven spa types were represented, predominately t008 (43.9%) and t2031 (22.7%). All four types of meats harbored t008, whereas t2031 was recovered from turkey only. The majority of MRSA (84.8%) possessed SCCmec IV and 62.1% harbored Panton-Valentine leukocidin. Pulsed-field gel electrophoresis showed that all ST8 MRSA belonged to the predominant human epidemic clone USA300, and others included USA100 and USA200. We conclude that a diverse MRSA population was present in U.S. retail meats, albeit at low prevalence.

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