



Phenotypic and Genotypic Antibiotic Resistance Features of *S. aureus* isolated from Milk and Cheese

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ABSTRACT

The present paper analyses the antibiotic resistance features of the enterotoxigenic *S. aureus* that had isolated out of 205 milk and cheese samples. *S. aureus* strains showed resistance, mainly to oxacillin 71 (67.6%, 71 /105), penicillin 67 (63.8%, 67 /105), erythromycin 47 (44.8%, 47 /105), vancomycin 41 (39.1%, 41 /105) respectively. The multidrug-resistant *S. aureus* were detected in 54 (51.4%) *S. aureus* isolates. The isolated strains were screened for the presence of *mecA*, *vanA*, and *ermC* genes. The results showed that, 78 (74.3%, 78 /105), 50 (47.6%, 50 /105), and 38 (36.2%, 38 /105) of these strains were carrying for the *mecA*, *ermC*, *vanA* genes respectively. High level of MRSA contamination 52 (49.5%, 52/105) were detected and it was in details as follows; 31 (77.5%, 31/40), 5 (50%, 5/10), 10 (50%, 10/20), 5 (20%, 5/25), and 1(10%, 1/10) within the examined cattle milk, sheep milk, white cheeses, other cheese, and cheddar cheese respectively. Furthermore, 33 (31.4%, 33 /105) of the examined *S. aureus* strains were both phenotypic vancomycin resistant and genotypic *vanA* gene carrier representing VRSA strains while, 44 (42%, 44/105) of the *S. aureus* strains were phenotypic erythromycin resistant and genotypic *ermC* gene carrier. High level 12.4% of enterotoxigenic MRSA detected is representing a fatal public health hazards facing milk and cheese consumers.

Biography

Dr. Shimaa Tawfeeq Abdallah Omara has completed his PhD at the age of 29 years from Cairo University and is currently an associate professor of Microbiology and Immunology in the National Research Center, Egypt. Dr. Omara received her master's degree in 2007 and her PhD in 2012. Dr. Omara contributed to

national and international research projects. She also served as a reviewer in international scientific journals. She has published more than 20 papers in reputed journals and has been serving as an editorial board member of repute. She also have great experience in detection the virulence gene of a lot of bacterial pathogens.