

Isolation of multidrug-resistant *Staphylococcus aureus* strains from various body sites in patients with different infections

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Abstract

Staphylococcus aureus is one of the most prevalent causative agents of infections and linked to increasing mortality associated with multidrug resistance worldwide. This bacterium is an important cause of endovascular infections, pneumonia, osteomyelitis, septic arthritis, skin and soft tissue infections, endocarditis, foreign-body infections and sepsis. *S. aureus* is a common cause of infections in patients in intensive care units in many countries. One of the reasons for the success of this human pathogen is its variability, occurring at different times and countries. The aim of study was to identify frequency of multidrug-resistance *S. aureus* (MDRSA) strains isolated from different sites of patients with various infections, to determine prevalent body sites. The average age of patients was 40 years. Strains were examined according to morphological, microscopical, tinctorial parameters. Cultivation of *S. aureus* were performed on different media (meat-peptone agar, meat-peptone broth, 5% blood agar, egg yolk-salt agar, milk-salt agar); cultivation ability was also studied according to temperature, biochemical properties (carotenoid pigment formation, carbohydrate fermentation, enzyme activity) and antibiotic susceptibility tests. Study results showed that the most prevalent site was oral cavity-MDRSA cultured in $19.35 \pm 2.98\%$ cases. By comparison, isolation was not significantly different for pharyngeal and soft tissue infections (the same number for both sites- $14.44 \pm 2.93\%$). There were detected a few and equal number of isolation cases from peritoneal liquid and phlegmon samples (both- $2.15 \pm 1.42\%$). In other cases number of isolated strains varied between above mentioned data (skin and soft tissue infection- $6.09 \pm 2.25\%$, nasal cavity- $5.73 \pm 2.10\%$, eye- $4.65 \pm 2.01\%$, ear- $3.94 \pm 1.87\%$, trachea- $3.94 \pm 1.87\%$, urine- $3.58 \pm 1.79\%$).

Biography

Shorena Khetsuriani has completed her PhD at Tbilisi State Medical University (TSMU). She is an Associate Professor of Microbiology Department of TSMU. She has published more than 80 papers in different biomedical journals. She is a co-author of two textbooks and three methods recommendations (for students and young researchers in biomedical field). She was the Supervisor of doctoral dissertation in Microbiology and a Peer Reviewer in microbiology issues of articles for biomedical journals. She is the Vice-President of NGO “Biomedical Research Development Association” and the Member of American Society for Microbiology.

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