THE MRSA ISSUE IN THE URALS.

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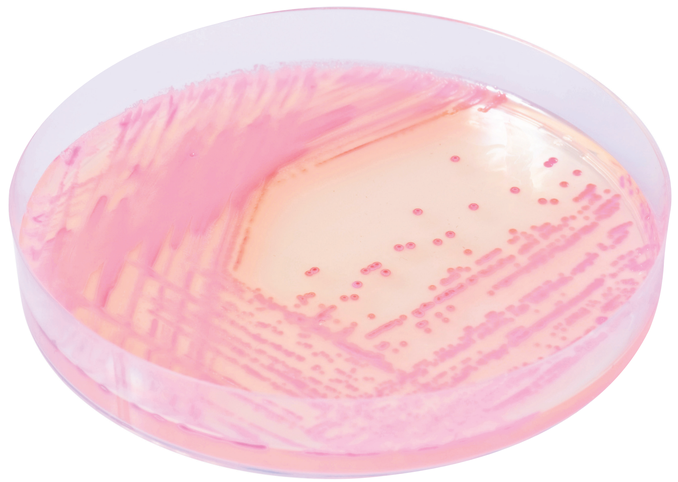


CHROMAGAR PICTURE - ALL RIGHTS RESERVED
CHROMAGAR MRSA MEDIA PLATE

BACKGROUND

*Staphylococcus aureu*s is one of the major human pathogens and is a cause of a wide range of diseases from mild or moderate skin and soft tissue infections to mortal pneumonia, sepsis and toxic shock syndrome. Over the last years the emergence of infections caused by methicillin-resistant *S.aureus* (MRSA) of nosocomial as well as community-acquired origin is of great concern.

Purpose

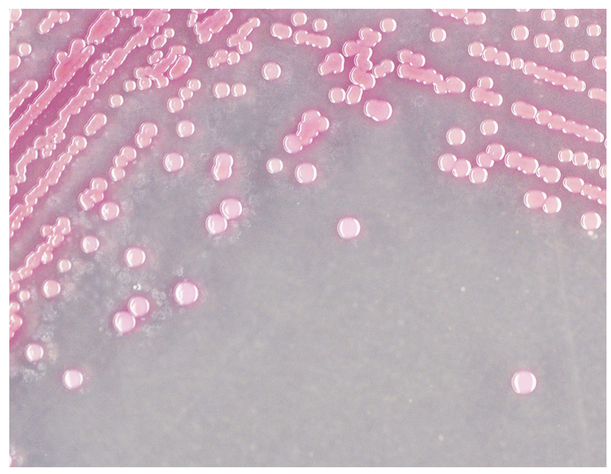
To evaluate the prevalence of methicillin-resistant *S.aureus* (MRSA) of nosocomial and community-acquired origin in the Urals.

Materials and Methods.

From March till September 2011 clinical speciments from hospital and ambulatory patients (children and adults) of «Regional children's clinical hospital № 1» with different diagnoses (mesotympanitis, acute otitis media, arthritis, atopic dermatitis, chronic tonsillitis, mucoviscidosis, recurrent obstructive bronchitis, enterocolitis, irritable bowel syndrome, nonspecific ulcerative colitis, haemophilia, etc.,) and also clinical speciments from pregnant women were tested for S. aureus. Identification of *S.aureus* was carried out with classical bacteriological methods or test systems for the following analyzers: semi-automatic ATB-Expression (BioMerieux, France) and automatic MicroScan WalkAway 96 (Siemens, Germany). The chromogenic medium CHROMagar™ MRSA (CHROMagar, France) was used for the isolation and differentiation of MRSA.

Results and discussion

In this study 352 *S.aureus* strains were tested for methicillin resistance (144 – from fauces and tonsils, 43 from noses and nasopharynx, 27 from wound content, 16 from cervical fluid, 7 from ear and trachea, 3 from bile, 2 from sputum and discharge of damaged skin, 1 from shoulder joint punctate, urina, umbilical wound, 98 from faeces). MRSA was detected in 5,4% of samples. Furthermore 26,3% of the strains were isolated from ambulatory patients and 73,7% - from hospital patients. 84,2% MRSA strains did not show multiple resistance during the susceptibility tests to another antibiotics classes. In this case, methicillin resistance may be due to penicillinase hyperproduction or penicillin-binding proteins mutation. And only 15,8% of *S.aureus* strains were found to be methicillin resistant, as a product result of additional penicillin-binding protein, encoded by a chromosomal gene mecA. The true MRSA strain, isolated from a tracheal aspirate collected from a child with haemophilia diagnosis for three times, is resistant to amoxicillin/ clavulanate, erythromycin, aminoglycoside, fluroquinolone, rifampicin and is susceptible to chloramphenicol, clindamycin, linezolid, tetracycline, trimethoprim/sulfamethoxazole, vancomycin.



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COLONIES ON CHROMAGAR MRSA

Conclusions

The percentage of true MRSA among patients with confirmed infection – 0,9%, and methicillin resistance caused by others mechanisms – 4,5%. At the moment MRSA is not an urgent issue for the the Urals, but constant monitoring is necessary.

ACKNOWLEDGMENT

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CHROMagar
The Chromogenic Media Pioneer