

4. FREQUENCY OF MRSA ISOLATION FROM BIOSUBSTRATE OF PATIENTS HOSPITALIZED IN SURGICAL WARDS OF THE REPUBLICAN CLINICAL HOSPITAL

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Introduction: Methicillin-resistant *Staphylococcus aureus* (MRSA) is a bacterium responsible for several difficult-to-treat infections in humans. It is also called oxacillin-resistant *Staphylococcus aureus* (ORSA). MRSA is any strain of *Staphylococcus aureus* that has developed, through the process of natural selection, resistance to beta-lactam antibiotics, which include the penicillins (methicillin, dicloxacillin, nafcillin, oxacillin, etc.) and the cephalosporins. Strains unable to resist these antibiotics are classified as methicillin-sensitive *Staphylococcus aureus*, or MSSA. The evolution of such resistance does not cause the organism to be more intrinsically virulent than strains of *Staphylococcus aureus* that have no antibiotic resistance, but resistance does make MRSA infection more difficult to treat with standard types of antibiotics and thus more dangerous. MRSA is especially troublesome in hospitals, prisons and nursing homes, where patients with open wounds, invasive devices, and weakened immune systems are at greater risk of infection than the general public. This study provides information about the aggression and dominance of this bacteria, as well the incidence in surgical wards of Republican Clinical Hospital.

Materials and methods: The study was conducted on the principle of bacteriological analysis of 139 samples with *Staphylococcus aureus*, from the Register of laboratory investigations, Form no. 250 / e, approved by Ministry of Health of the Republic of Moldova, no. 828 of 31.10.2011. The data obtained were characterized and interpreted statistically: we evaluated the total number of cases of MRSA infection and its incidence comparing with the total number of cases.

The result of discussion: In a study of Republican Clinic Hospital, Bacteriological Laboratory, during 2013 were registered 139 cases of infection with *S.aureus*, 39 of them were found to be MRSA, that represents approximately 28% of all staphylococcal infections. Nearly half of the samples with MRSA belonged to patients hospitalized in the department of General Surgery - 48%, Otorhinolaryngology - 18%, Clinic -13%, and Thoracic Surgery - 11%.

Conclusion: MRSA is a „super-bacteria" extensively studied in the present, with a strong resistance to methicillin / oxacillin, frequently hospital infection acquired resistance, the most common in the departments of General Surgery and ENT. As in other countries, cases of MRSA are frequent in Moldova, unfortunately they are increasing.

Key-words: Methicillin-resistant *Staphylococcus aureus*; Nosocomial Infection „Super-bacteria”

5. ARGININE VASOPRESSIN RECEPTOR ANTAGONISTS IN THE TREATMENT OF CONGESTIVE HEART FAILURE

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Introduction: Arginine vasopressin (AVP) is the major physiological regulator of renal water excretion and blood volume. The AVP pathways of V1a Receptor-mediated vasoconstriction and V2 Receptor-induced water retention represent a potentially attractive target for therapy of congestive heart failure, even more that there is a big class of patients which develop resistance at diuretics.

Purpose and Objectives: Highlighting the importance of Arginine vasopressin in the evolution of the congestive heart failure and the potential therapeutic benefit of the AVP receptor antagonists.

Materials and Methods: The presentation represents an extensive literature review and is based on up-to-date information extracted from 4clinical trials: EVEREST, SALT 1 and 2, OPTIMIZE-HF.

Results: Patients affected by congestive heart failure (CHF) have high plasmatic levels of Arginine vasopressin even though they are hypervolemic with lower plasma osmolarity and serum sodium levels and this happens because of the lower effective of arterial blood volume, decreased cardiac output and Angiotensin II-induced AVP release. Arginine vasopressin exerts adverse effects in CHF by increasing vascular peripheral resistance via V1a Receptors and by enhancing water retention through V2 Receptors from renal collecting tubules. Furthermore, sustained stimulation of V1aR in the heart can lead to remodeling by stimulating cell hypertrophy and further deteriorates cardiac function. Therefore, blockade of the AVP system may prove as a useful adjunct or alternative to standard therapy in CHF. Currently there are 4 major compounds which are AVP-antagonists, 3 of them are selective antagonists of V2R: Tolvaptan, Satavaptan and Lixivaptan and 1 is a nonselective antagonist of V1aR and V2R: Conivaptan. Only Conivaptan and Tolvaptan are approved by FDA, the first one for treating hypervolemic and euvolemic hyponatremia and the second one for the treatment of CHF, liver cirrhosis and SIADH (syndrome of inappropriate antidiuretic hormone secretion).

Conclusion: According to the results of the clinical trials that were mentioned above, this new class of medicines is efficient in short-term regulation of hyponatremia and hypervolemia in congestive heart failure and may be used as an alternative for patients with resistance to diuretics. Long-term efficiency wasn't demonstrated and there are many questions that have to be elucidated regarding to this class of drugs.

Keywords: Arginine vasopressin, vaptans, congestive heart failure.

6. MICROSCOPIC CHANGES IN BLOOD CAPILLARIES IN HEMORRHAGIC VASCULITIS AND THE CORRELATION WITH THE DEGREE OF EXPRESSION OF IMMUNE REACTIONS

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Introduction: Henoch-Schoenlein Purpura is the most frequent vasculitis in pediatric patients usually with a self-limiting evolution. Still the evolution of the disease is hardly predictable with a possibility to acquire a severe clinical form. This paper had the goal to highlight the possible correlation between the severity of the degree of the histopathological lesions and the expression of markers of endothelial status and cellular and humoral immune status. Other researches with similar purpose were performed, but the analysis of the literature has shown that the results are contradictory.

Materials and Methods: To reach the goal, we have performed histopathological diagnosis and analysis of skin biopsies and we have evaluated the endothelial status, cellular immune status and humoral immune status.

Results: We founded a significant correlation between the degree of implication of microcirculation and the level of markers of the endothelial status.

Conclusions: The markers of the endothelial activation can be an alternative method in evaluation of the severity of disease and therefore of the therapeutical strategy, still more researches are necessary.

Keywords: Henoch-Schonlein Purpura, histopathology, endothelial markers, VCAM, ECAM.

7. METABOLIC CHANGES IN POLYCYSTIC OVARIAN SYNDROME

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Introduction: Polycystic ovary syndrome (PCOS) is a heterogeneous multifactorial disease characterized by menstrual disorders, chronic anovulation, hyperandrogenism, cystic changes in the ovaries and infertility. The syndrome is a condition with prepubertal onset, affecting especially women of childbearing age.