

### **337. EPIDEMIOGENIC SITUATION BY INFECTION WITH METHICILIN-RESISTANT STAPHYLOCOCCUS IN REPUBLIC OF MOLDOVA**

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**Introduction.** Septic purulent infections with methicilin-resistant *Staphylococcus* (MRS) is an important public health problem due to the high number of illness and significant health and socio-economic impact. It is recognized as one of the most common causes of nosocomial infections. In the Republic of Moldova the true incidence of septic-purulent nosocomial infections caused by methicillin-resistant *Staphylococcus* (MRS) is not known.

**Aim of the study.** To determine the incidence and epidemiological particularities of septic-purulent infections caused by MRS.

**Materials and methods.** The study includes the results of bacteriological investigations of patients from the multi-profile medical institutions, rural and maternity hospitals. The isolation of *Staphylococcal* strains and determination of their sensitivity to antibiotics were carried out by using the classical method and the automated system VITEK 2 Compact (bioMérieux).

**Results.** Results of this study showed that in Moldova the spread of MRS is diverse, in the multi-profile medical hospitals – 36,32%, maternity – 61,81%, rural – 22,36%. In 72,13% of cases, strain of methicillin-resistant *Staphylococcus* are coagulase-negative staphylococci, and only 27,87% - are coagulase-positive staphylococci. Polyresistant strains of MRS to antibiotics are increasing, from 78,96% in 2014 to 89,89% in 2017. The prevalence of MRS strains varied depending on the profile of the hospital division and pathological products. A higher isolation rate of MRS strains were seen in patients admitted to the surgical wards, intensive care unit, traumatology and orthopedics, while 76,11% strains were isolated from blood cultures.

**Conclusions.** Septic purulent Infections with MRS in Moldova is a major public health problem. The results of the study show that the share of MRS strains is ~ 36,32%.

**Key words:** Methicilin-resistant *Staphylococcus* (MRS), septic purulent infection, polyresistant to antibiotics.

### **338. ACINETOBACTER SPP. AS NOSOCOMIAL PATHOGENS: EPIDEMIOLOGY AND RESISTANCE FEATURES**

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**Introduction.** *Acinetobacter baumannii* infections are a growing clinical problem affecting all countries of the world. Given the distinct survival ability, *Acinetobacter baumannii* is easily spread in the hospital environment causing nosocomial infections. The risk factors for *A. baumannii* infection include hospitalisation, poor overall condition, circulatory system insufficiency, respiratory system insufficiency, mechanical ventilation, prior antibiotic therapy and presence of foreign materials (such as venous, arterial and urinary catheters). More than 30% of hospital-acquired infections are due to *Acinetobacter baumannii*, and it can cause various types of infections, mostly related to intensive care and invasive treatments (ventilator-associated pneumonia (47% cases), bloodstream infections, surgical site infections, urinary

tract infections (45% cases), skin and soft tissue infections, meningitis). For decades the genus *Acinetobacter* has undergone several taxonomical modifications. In the last few years these organisms are genetically modifying into highly resistant forms resulting in untreatable nosocomial infections and health care associated infections. *A. baumannii* can cause severe or fatal illnesses, especially in critically ill patients with low immune responses, and can increase patient mortality along with hospital costs. Studies show that the mortality rate of hospitalised patients infected with *A. baumannii* is 8-23%, and 10-43% at intensive care units.

**Aim of the study.** Determining the degree of spread of nosocomial infections caused by *Acinetobacter* spp., nosological structure, epidemiological features, antibiotic resistance.

**Materials and methods.** A descriptive cross-sectional study was conducted for 2014–2016 on the model of the Republican Clinical Hospital, the Institute of Neurology and Neurosurgery, and the Institute of Emergency Medicine.

**Results.** In 2014-2016, in the three hospitals mentioned above, 1,005 cases of purulent-septic infections caused by *Acinetobacter* spp. were investigated. Most often they are found in intensive care units, anesthesiology and intensive care (56.32%), surgery (15.72%) and traumatology and orthopedic (14, 82%). The largest share is occupied by *A. baumannii* (98.69%), compared with *A. iwoffii* (0.95%) and *A. haemolyticus* (0.36%). *Acinetobacter* strains are mainly found in monocultures (65.77%), but in 34.23% - in associations in which gram-negative microorganisms significantly prevail (79.86%), including *P. aeruginosa* (33.49%), *K pneumoniae* (17.33%) and *E. coli* (11.48%). In 81.13%, *Acinetobacter* strains are resistant to antibiotics, and only 18.87% are sensitive to them. *Acinetobacter* strains were more resistant to penicillins (97.02%), penicillins + beta-lactamase inhibitors (96.73%), cephalosporins I generation (99.40%), cephalosporins II generation (98.86%), cephalosporins III generations (97.44%), IV generation cephalosporins (93.88%), nitrofurans (98.97%), macrolides (94.38%). A higher sensitivity is manifested in the following groups of antibiotics: cyclic polypeptides (94.42%), tetracyclines (85.12%) and other antibacterial agents (50.96%).

**Conclusions.** Most infections caused by *Acinetobacter baumannii* have been detected in patients hospitalized in intensive care units and surgical departments. *Acinetobacter baumannii* is resistant to most antibiotics, and sensitivity to the currently used antibiotics is significantly reduced. High prevalence of antibiotic-resistant strains of *Acinetobacter* spp. emphasizes the importance of the use of selective antibiotic therapy and the strict monitoring of measures to combat nosocomial infections.

**Key words:** nosocomial infections with *Acinetobacter*, incidence, nosologic forms, antimicrobial resistance

### **339. IMMUNOGENICITY OF INFLUENZA TETRAVALENT INACTIVATED SUBUNIT ADJUVANT VACCINE IN HEALTHY AND IN PATIENTS WITH PRIMARY IMMUNE DEFICIENCY**

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**Introduction.** Vaccination is the most effective means of influenza prevention. The current epidemiological influenza situation in the world indicates that trivalent vaccines are not able to protect the population from all circulating strains of type B influenza virus, that necessitates the improvement and expansion of the composition of the vaccines.