**Escherichia coli** spp. and **Klebsiella pneumoniae** spp. product ESBLs, 27.30% of *Escherichia coli* spp. and 37% of **Klebsiella pneumoniae** spp.

**Conclusion:** According to our results, ESBLs are widespread in Bacteria. The most leading reason for this problem, is no identification and reorganization of ESBLs productive strains and describing cephalosporins and Aztreonam in patients.

**Thu274 Comparative survey of the production of Nano Structure Surface layer and \( \beta \)-lactamase in Bacillus cereus Strains**

Shilla Jalalpoor Roohi Kasra Kermanshahi Ashraf Sadat Noohi Hamid Zarkesh Hamid Abousaidi

Alzahra hospital/ Isfahan University

**Introduction:** S-layer is monomolecular outermost protein layer in Bacteria and archaia, credit of protein or glycoprotein subunits and has crystalline biopolymer structure, S-layer inhibit entry of some bimolecular, adhesion to matrix proteins and ...and \( \beta \)-lactamase inactive antibiotics and due to antibiotic resistance. Presence of this virulence agent in Bacteria results in increased pathogenesis.

**Materials and Methods:** In this research we studied 26 *Bacillus cereus* strains. Identification of Bacteria, were performed with microbiological methods: staining, chemical test, use of differential and selective media. Finally Isolation of *Bacillus cereus* strains, performed with *Bacillus cereus* Selective Agar, and to prepare samples first we cultured Bacteria in TSA, for 16 hour, in aerobic condition then separated surface proteins and finally, specimens electrophoresis near molecular weight marker. S-layer in *Bacillus cereus* has 97KD molecular weight. Production of \( \beta \)-lactamase was performed according to Acidimetric method.

**Results:** Of 26 *Bacillus cereus* strains, 14 strain productions S-layer and 12 strain didn’t have S-layer. According to Acidimetric test result, all of strains were with S-layer, production \( \beta \)-lactamase.

**Conclusion:** High prevalence of S-layer and \( \beta \)-lactamase in *Bacillus cereus* strains due to antibiotic therapy can have effects on patients and it is necessary to reduce transferring of virulence agent and antibiotic resistant in pathogen Bacteria.

**Thu275 Multidrug-Resistant Bacteria Isolated from Patients' samples in Intensive Care Units**

Aziz Japoni\(^a\), Afsaneh Vazin\(^b\), Mahdi Hamadi\(^b\), Mohammad Ali Davarpanah\(^a\), Abdolvahab Alborzi\(^a\), Noraladin Rafaatpour\(^a\)

Professor Alborzi Clinical Microbiology Research Center. "Department of Clinical Pharmacy. Gastroenteropatology Research Center and Internal Medicine ward. Shiraz University of Medical Sciences, Shiraz, Iran.

**Introduction and objectives:** The aim of this study was to determine epidemiological aspects and bacterial resistance patterns of isolated bacteria from patients admitted in Intensive Care Units (ICUs).

**Materials and Methods:** During 10 month period (from June 2006 to March 2007), 812 samples of blood, urine and CSF from 553 hospitalized patients in ICU wards including pediatrics surgery, adults surgery, neurosurgery, pediatrics, neonate, internal, general and sub-ICU were collected. Minimum Inhibitory Concentration (MIC) of the bacteria isolated from samples was determined by the E-test method.

**Results:** Internal ICU with 159 (28.7%) admissions was standing in the highest rank. Coagulate Negative Staphylococci (CNS) with 66.7 %, 36.5 % and *E. coli* with 20.9% frequencies were the bacteria isolated from the blood, CSF and urine sequentially. Samples taken from patients with ages between 20-40 years were at the highest level (262: 32.2 %) while for the patients over sixty years this figure standing at the lowest level (150: 18.5%). Both gram positive and negative isolates expressed resistance to the majority tested penicillins and cephalosporins. Vancomycin with meropenem or imipenem showed the best effectiveness against gram positive and negative isolates.

**Conclusion:** High multi-resistant bacteria in ICUs warn us to administer a few effective antibiotics in our hospitals more wisely to reduce pressure on sensitive strains. This could be beneficial for lifesaving of ICU patients and prevention of spread of resistant isolates in these critical wards. It seems a combination of vacamycin with meropenem or imipenem can control all bacterial infections when empirical therapy needs to be considered.

**Thu276 Susceptibility of E.coli O157:H7 isolated from cattle carcasses at Mashhad slaughter house to some antibiotics and essential oils**

Saeid Khanzadi\(^1\), Abdollah Jamshidi\(^2\), Mohammad Hashemi\(^1\)

1.2-Department of Food Hygiene, Faculty of Veterinary Medicine, Ferdowsi University of Mashhad
In this study, 100 swab samples were taken from brisket region of male cattle carcasses in the range of 2-4 years of age, which were slaughtered in Mashhad abattoir. The samples were obtained from the post-chilling stage of processing. For isolation, the bacteria samples were firstly enriched in modified trypsinase soy broth containing novobiocin, followed by plating on sorbitol Mac Conkey agar supplemented with cefixime and potassium tellurite. Consequently the suspected non sorbitol fermenting (NSF) colonies were confirmed by biochemical tests (IMViC) as Escherichia coli and then employed for multiplex-PCR assay, using primers specific for O157 and H7 antigens gene. For antibiotic susceptibility testing nitrofurantoin, streptomycin, cephalothin, kanamycin, neomycin, cefotioxime and trimethoprim sulfamethoxazole discs were used and disc diffusion method on Muller hinton agar was employed. To test the antibacterial effects of some essential oils, the essential oils of Trachyspermum ammi L., Thymus vulgaris, Mentha pulegium and Cuminum cyminum L. were added to blank discs and tested using the same method. Isolated bacteria were respectively susceptible to nitrofurantoin, cefotioxime, neomycin and kanamycin and also to Trachyspermum ammi L., Thymus vulgaris and Cuminum cyminum L. essential oils. The antibacterial effect of tested antibiotics and essential oils were comparable.

**Thu277 Antimicrobial Resistance in Haemophilus influenzae**

Kharkooi1 M*, Ghanbarzadeh2 J, Meftah2 M, Davoodi2 M, Hoseini2 M

1. Member of young researchers club, Islamic Azad University Gorgan branch
2. Islamic Azad University Gorgan branch

*Haemophilus influenzae* is a major community-acquired pathogen causing significant morbidity and mortality worldwide. Meningitis and bacteremia due to type b strains occur in areas where the protein-conjugated type b vaccine is not in use, whereas nontypeable strains are major causes of otitis media, sinusitis, acute exacerbations of chronic bronchitis, and pneumonia. Antibiotic resistance in this organism is more diverse and widespread than is commonly appreciated. Intrinsic efflux resistance mechanisms limit the activities of the macrolides, azalides, and ketolides. β-Lactamase production is highly prevalent worldwide and is associated with resistance to ampicillin and amoxicillin. Strains with alterations in penicillin binding proteins, particularly PBP3 (β-

**Thu278 Sensitivity Patterns of Group A Beta Hemolytic Streptococci Isolated from nosocomial infections in Gorgan, in relation to the Used Antibiotics**

Kharkooi1 M*, Ghanbarzadeh2 J, Meftah2 M, Davoodi2 M, Hoseini2 M

1. Member of young researchers club, Islamic Azad University Gorgan branch
2. Islamic Azad University Gorgan branch

**Background:** Group A beta hemolytic streptococci (GABHS) are potentially pathogenic bacteria which cause various infections among children and adults. For over 60 years, penicillin has been used as the drug of choice for treatment of infections caused by this bacterium. Yet, there is no published article on the resistance of this bacterium to penicillin.

**Materials and Methods:** In the present investigation, 125 isolates of GABHS isolated from patients with pharyngitis, sinusitis and burn infections were subjected to antibiotic sensitivity by standard methods of disk diffusion and minimum inhibitory concentration (MIC) tests using penicillin, vancomycin, ciprofloxacin, cephalexin, erythromycin, tetracycline and chloramphenicol.

**Results:** All isolates of GABHS (100%) were sensitive to penicillin (MIC: 0.002-0.032 μg/ml) and vancomycin (MIC: 0.125-2 μg/ml). Other sensitivity rates included: cephalexin 97.6% (MIC: 0.018 μg/ml), chloramphenicol 88.8% (MIC: 1-32 μg/ml), erythromycin 87.2% (MIC: 0.032-64 μg/ml), tetracycline 75.2% (MIC: 0.125-128 μg/ml) and ciprofloxacin 92.8% (MIC: 0.125-4 μg/ml).

**Conclusion:** Penicillin is still the drug of choice for treatment of GABHS infections. Patients allergic to...