**PP-025** Amp C beta-lactamases among extended spectrum beta-lactamases producing Enterobacteriaceae

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**Introduction/background:** Amp C beta lactamases are cephalosporinases which confer resistance to cephamycins, narrow-, expanded- and broad-spectrum cephalosporins, beta-lactam/beta-lactamases inhibitor combination and aztreonam. ESBLs and Amp C beta lactamases may co-exist in isolates. Presence of Amp C beta-lactamases goes undetected in presence of ESBLs. This may lead to treatment failure and poses diagnostic and therapeutic challenge.

**Objective:** To detect the prevalence of Amp C beta lactamases among ESBL producing Enterobacteriaceae isolated from a tertiary care hospital of Pakistan.

**Place and duration of study:** The study was carried out from October 2009 to March 2010, at the Department of Microbiology, Army Medical College/National University of Sciences and Technology, Rawalpindi, Pakistan.

**Methods:** Clinical specimens were received from various wards. Organisms were identified by standard microbiological procedures. ESBL detection was done by double disk approximation method by Jarier et al and confirmed by Etest (ceftazidime, ceftazidime/clavulanic acid). ESBL producing organisms were subjected to three dimensional extract test (3DET) for detection of Amp C beta lactamases. Antimicrobial susceptibility of isolates against aminoglycosides, cephalosporins, monobactams, fluoroquinolones, carbapenems and beta-lactam/beta-lactamase inhibitor combination was tested by using Kirby Bauer disc diffusion technique, according to CLSI guidelines.

**Results:** We evaluated 58 ESBL producing Enterobacteriaceae for Amp C production (32 E. coli, 18 K. pneumoniae, 6 Enterobacter spp, 2 K. oxytoca). 34 were positive for Amp C beta lactamase production. 68% E. coli, 32.3% K. pneumoniae and 5.8% Enterobacter spp are positive for Amp C beta lactamases. Overall prevalence of Amp C in ESBL producing isolates was 56.6%.

**Conclusion:** This study shows the high prevalence of Amp C beta lactamase producing isolates, which may lead to serious therapeutic problems. Three-dimensional extract test is a reliable method for detection of Amp C beta-lactamases.

**PP-026** Cryosurgery for Rhinoscleroma – a clinico-bacteriological study

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**Introduction:** Rhinoscleroma is an infective granulomatous disease of the nose and upper respiratory tract which is fairly common in Egypt. Klebsiella rhinoscleromatis could be isolated from cases of scleroma. The viral theory has been disputed by electron microscopic studies. Up till now, there was no definite line of successful therapy accepted universally. Some suggest X-ray treatment, radium therapy, autogenous vaccine, fever therapy, and surgical removal.

**Objective:** To study the effect of Cryosurgery on the Klebsiella rhinoscleromatis (the causative organism) during the early stages of the disease and to study the HLA pattern of these patients.

**Subjects and Methods:** Twenty patients with Rhinoscleroma. Biopsies were taken from the nasal lesion to confirm Rhinoscleroma then two-minutes double cycle Cryoapplications were done and biopsies were taken immediately and one week after the Cryoapplications. The specimens were examined bacteriologically. HLA typing using microlymphocytoxicity method.

**Results:**
1. 65% of patients needed three Cryoapplications of double cycle, two-minutes for each, at two-week intervals to become free from Klebsiella rhinoscleromatis and destroying of the granulomatous mass. Two patients (10%) needed two Cryoapplications and five patients (25%) needed four Cryoapplications.
2. HLA-A9 was detected in 55% of patients and in 11.56% in control sample. This difference was statistically significant.

**Conclusion:**
1. Treatment by Cryosurgery indicate eradication of Klebsiella rhinoscleromatis and the granulomatous mass.
2. The number of Cryoapplications needed for treatment were proportional to the size and site of the mass.
3. Association of HLA-A9 with the disease added further support to an immuno-pathological mediated disease mechanism in Rhinoscleroma, i.e., the immune system of the body failed to recognize the Klebsiella rhinoscleromatis as a foreign antigen so, no antibodies are formed.

**PP-027** Bacteriological studies of Pityriasis alba

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**Introduction:** Pityriasis alba is one of the most common skin diseases seen in Egypt and in other countries mostly affecting children. Various accused etiologic factors. Climatic, hygienic, nutritional, bacterial, fungal and immunologic factors are blamed.

**Aim:** To determine the role of bacteria & fungi in Pityriasis alba.

**Subjects and Methods:** Fifty patients with clinically evident Pityriasis alba and control group of 15 normal individuals.

1. **Clinical sampling:** An area of 1 cm2 over the lesion was marked by a sterile metal frame using a sterile scalpel, twenty five upward strokes were done using even pressure. A similar specimen was taken from the control area nearby the lesion & from controls. The scrapings were inoculated in a tube of 1ml nutrient broth with glass beads and specimens were cultured for bacteria, fungi & for Quantitative estimation. They were counted first as total bacterial counts/1cm2 of the skin and then differential counting of the various species of bacteria.

2. Urine and Stools analysis.

**Results:**
1. The most frequently isolated organism from the lesions was Staphylococcus epidermidis in 57.14%.
2. There was higher counts of bacteria in the patches of Pityriasis alba than in the uninvolved skin and skin of normal controls this increase is not statistically significant.
3. The incidence of Parasites among Pityriasis alba cases was 56.00%, while it was 44.00% in the control group. Ascaris was the most prevalent amounting to 46.00% in cases of Pityriasis alba, compared with 30.00% in normal controls.
4. All scraping did not give any fungal growth.

**Conclusion:** Bacteria may play a role in the etiopathogenesis of Pityriasis alba. It can be assumed that the condition of the skin in Pityriasis alba lesion is more susceptible to bacterial over-growth, this increased susceptibility may
be predisposed by non-specific factors such as parasitic infestation, atopy, ultraviolet rays or unknown factors.

**PP-028 The bacterial flora on the hands of hospital personnel**

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**Introduction:** The micro-organisms on the hands comprise resident and transient flora. Transient bacteria play a major role in the transmission of infection in hospitals. As physician and nurses come in contact with patients, they carry pathogenic organisms on their hands and spread these nosocomial pathogens.

**Aim:** To study the bacterial flora on the hands of the hospital personnel before and after working shifts.

**Subjects and Methods:** Two hundred nurses and physicians. The hands were sampled, using impression plate technique, after handwashing, and at the end of the work shift. The plates were incubated for 24 hours aerobically at 37ºC.

- Gram-negative bacilli were identified by API 20E.
- *Staphylococcus aureus* was identified by slide-coagulate test and tested for methicillin sensitivity.
- Novobiocin sensitivity test to differentiate *Staph. epidermidis* (sensitive) and *Staph. saprophyticus* (resistant).

**Results:** 779 isolates were obtained before work shift, 414 after work shift, though there was a significant difference between the carriage rates before and after work shift, there was a significant difference in the carriage rates after handwashing and at the end of work shift.

**Conclusions:**
- The hospital personnel mainly acquire Gram-negative bacilli from the hospital environment.
- *Staph. aureus* has established itself as temporary resident flora on the hand of hospital personnel.

**PP-029 Efficacy of linezolid against multidrug resistant Gram-positive bacteria**

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**Background:** The incidence of nosocomial infections caused by Gram-positive bacteria has increased dramatically over past few years. Methicillin resistant *Staphylococcus aureus*, vancomycin resistant enterococci and coagulase negative staphylococci have been implicated in many nosocomial infections. Linezolid is one of the newer antibacterial agents with a spectrum of activity against Gram-positive bacteria. It is the first drug of a new class of antibiotics, the oxazolidinones, introduced recently to therapy.

**Aims and Objectives:** To find out in vitro efficacy of linezolid against multidrug resistant Gram positive organisms.

**Materials and Methods:** This descriptive cross sectional study was carried out in the department of Microbiology, Army Medical College, National University of Sciences and Technology, Pakistan over a period of one year. All samples were dealt with standard microbiological methods. All isolated multidrug resistant Gram positive organisms were subjected to the determination of minimum inhibitory concentrations of linezolid by using E strip. Minimum inhibitory concentrations 50 and minimum inhibitory concentrations 90 were calculated.

**Results:** Majority of the isolates were methicillin sensitive *Staphylococcus aureus* followed by coagulase negative staphylococci. 15 methicillin resistant *Staphylococcus aureus* and 10 vancomycin resistant enterococci were isolated during the study period. All the Gram-positive organisms were uniformly sensitive to linezolid including vancomycin resistant enterococci and methicillin resistant staphylococci.

**Conclusion:** Linezolid is highly active against Gram-positive organism including multidrug resistant organisms so it can prove to be a good therapeutic option for infections caused by such bacteria.

**PP-030 Retrospective analysis of 118 cases of brucellosis in Northeast China**

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**Background and Aim:** The prevalence of brucellosis has been increasing in China in the past decade. Misdiagnosis and delay in treatment often occurs owing to atypical symptoms and more complications. The aims of this study were to analyze the clinical features and current treatment options of brucellosis in Jilin Province in Northeastern China.

**Methods:** Brucellosis was diagnosed in 118 patients during the periods from January 1998 through September 2009 in our hospital. The main epidemiologic and clinical data for those patients were collected and analyzed.

**Results:** Of the 118 patients, 97 males and 21 female, the mean age at the time of diagnosis was 26 years (range 12–73). They were farmers (72.8%), veterinary (6.7%) and herdsmen (5.9%). 3 of those patients was sika deer breeders. Sources of infection for those patients were sheep (62.7%), followed by cow (17.7%), dog (3.3%), and deer (2.5%). Transmission of brucellosis to human occurred mostly through deliver aminal baby. Clinical symptoms were usually atypical and complications were common. All of the patients with fever, which has high fever (72%), refund sweat (72%), headache (22%), muscle pain (22%), liver enlargement (45.7%), splenomegal (47.4%), and lymph node enlargement (24.5%). Complications, in order of frequency, were hepatitis (64.4%), arthritis (55.9%), epididymal orchitis (8.5%), pneumonia (6%), meningitis (1.7%) and nephritis (0.8%). Combination therapies with brucellosis for first 5–7 days were Doxycycline plus Levofloxacin (50%), Doxycycline plus Streptomycin (12.7%), Doxycycline plus Cefazidime (16.9%), and others (15.3%). The highest frequency of subsequent treatment was Doxycycline plus Rifampicin (79.6%). 4 of those patients failed after an initial treatment of Doxycycline for 7 days, and eventually cured by using the combination of Doxycycline plus Rifampicin for 6 weeks.

**Conclusion:** Brucellosis is mainly found in rural areas of Jilin province of China and early diagnosis and standardized treatment for brucellosis should be further strengthened.