



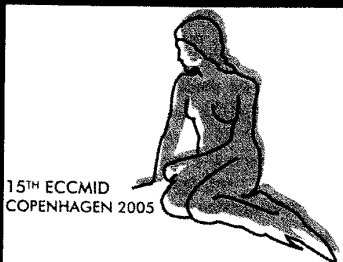
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Abstracts

P1071

Prevalence and risk factors of acquiring MRSA and ESBL+ *Enterobacteriaceae* vis-à-vis usage of antimicrobials

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Objectives: A point prevalence study performed in a Indian tertiary hospital (surgery, orthopaedic, medicines, n = 182, male) in 2001 to find the prevalence and risk factors of acquiring MRSA and ESBL+ *Enterobacteriaceae* vis-à-vis usage of antimicrobials.

Methods: Dry swabs were collected (nose, throat, wounds). Isolates were carried to the Microbiology department, RVI, Newcastle, UK where works were done. A subset of *S. aureus* was characterised by phage typing. MRSA were typed by PFGE. A case-control study was performed.

Results: Usage of antimicrobials: 93(surgery), 60 (orthopaedic) and 53(medicine) DDD/100 bed-days. All MRSA isolates, except 2, belonged to phage group III. Majority of MSSA isolates were distinct strains. PFGE confirmed that MRSA isolates were indistinguishable.

Colonization rates: orthopaedic(MRSA, 34%;ESBL, 41%), surgery (MRSA, 18%;ESBL, 23%) medicine (MRSA, 1%;ESBL, 14%). All MRSA isolates were resistant to multiple classes of antimicrobials whereas MSSA were sensitive (p < 0.001). All ESBL+ bacteria were resistant to multiple classes but sensitive to meropenem, colistin, amikacin (82%), cotrimoxazole (50%) and chloramphenicol (50%). Resistance in non-ESBL+ bacteria was detected to ampicillin (73%), cefalexin (32%), 2nd/3rd generation cephalosporin (0%), chloramphenicol (32%), cotrimoxazole (11%), ciprofloxacin (5%), trimethoprim (21%), gentamicin (5%), netilmicin (53%) and tobramycin (11%). Potentially community acquired isolates showed lower rates of resistance (0% to trimethoprim, ciprofloxacin, gentamicin, amikacin, tobramycin, 2nd/3rd generation cephalosporin). Duration of hospital stay was not a risk for acquiring either ESBL+ bacteria or MRSA whereas having a surgery was associated. Exposure to quinolone was a risk factor for MRSA but not ESBL+ bacteria. Aminoglycoside and cephalosporin were risks for ESBL+ bacteria. Acquiring both MRSA and ESBL+ *Enterobacteriaceae* together did correlated with the duration of hospital stay in addition to exposure to aminoglycoside and cephalosporin.

Conclusion: Majority of patients remained free from resistant bacteria implying that cross-transmission alone was not sufficient in absence of risk factors, particularly exposure to antimicrobials. Good hand-hygiene and prudent use of antimicrobials are realistic options for resource poor countries to reduce the burden of resistant bacteria. There is a unique opportunity to sequentially introduce specific infection control measure and evaluate its effectiveness.

P1072

Antimicrobial resistance in an intensive care unit before adopting an antibiotic rotation programme for empiric therapy of ventilator-associated pneumonia

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Objectives: A high prevalence of morbidity, mortality, antibiotic use, antimicrobial resistance (AR), and economic costs is generally encountered in the intensive care unit (ICU). The adoption of an antibiotic rotation programme (ARP) can minimize the emergence and spread of AR. Before initiating an ARP for empiric therapy of ventilator-associated pneumonia (VAP) in our ICU, we evaluated the AR profile of major bacterial pathogens that generally cause severe infections in the ICU.

Methods: During a 16-month period, a total of 533 nonrepetitive bacterial strains were isolated from clinical samples (primarily blood, tip of vascular catheters, bronchial aspirate and/or bronchoalveolar lavage, and urine) of adult patients admitted to a 7-bed mixed ICU of a 350-bed non-teaching hospital. Bacterial isolates were identified by automated methods (VITEK[®]) and tested for AR using NCCLS guidelines; they were 175 *Staphylococcus aureus*, 82 *Pseudomonas aeruginosa*, 76 coagulase-negative *Staphylococci* (CNS), 32 *Escherichia coli*, 24 *Enterococcus faecalis*, 18 *Klebsiella pneumoniae*, and other species with <15 isolates each.

Results: Among gram-negative aerobic bacilli, we found *P. aeruginosa* strains to be meropenem and piperacillin/tazobactam-resistant in 22% and 14.6% of cases, respectively; *P. aeruginosa*, *E. coli* and *K. pneumoniae* were resistant to ceftazidime in 29.3%, 6.25%, and 0% of cases, respectively, and resistant to ciprofloxacin in 54.9%, 12.5%, and 5.6% of cases, respectively. Neither *E. coli* nor *K. pneumoniae* were resistant to either meropenem or piperacillin/tazobactam. Among gram-positive aerobic cocci, oxacillin-resistant *S. aureus* and CNS were 55.8% and 82.7%, respectively; *S. aureus* isolates were very susceptible to cotrimoxazole (resistance 7.65%) and rifampin (11%), whereas resistance exceeded 40% for clindamycin, gentamicin, and norfloxacin. Ampicillin- and penicillin-resistant *E. faecalis* were 20.8% and 33.3%, respectively. Neither *S. aureus* nor *E. faecalis* were resistant to vancomycin, whereas one CNS strain was resistant to it (1.3%) and 6 out of 76 to teicoplanin (7.9%).

Conclusion: In our ICU, where a careful policy of antibiotic use with no predetermined restrictions has been applied for years, AR among both gram-negative and gram-positive microorganisms is generally lower than in the ICUs of Italy and other Mediterranean countries. We expect that the institution of an ARP for empiric therapy of VAP can further minimize AR in our ICU.

Difficult to treat nosocomial infections

P1073

Cure of post-traumatic recurrent multiresistant Gram-negative rod meningitis with intraventricular colistin

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Background: Although newer antibiotics have been introduced to the market during the last years, they have not solved the

problems arising in the management of infections due to multiresistant Gram-negative bacteria. Colistin, an antibiotic almost forgotten for decades has proved itself helpful, when used parenterally in patients where a lot of the classic and newer antibiotics fail.

Methods: We report our experience with the management of the case of a young patient who, after head trauma, had five episodes of meningitis due to multidrug-resistant Gram-negative microorganisms.