The population diversity of HBV present in children failure to HB vaccine and their mothers.

PO-0260 FREQUENCY OF ANTIBIOTIC RESISTANCE PATTERNS IN BACTERIA ISOLATED FROM CHILDREN

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Background and objective Bacterial infections in particular meningitis, pneumonia and septicemia are still some of the most causes of mortalities in children. The aim of present study was to identify the most common bacterial agents causing infection in children under 14 and detection of antibiotic resistance patterns.

Material and methods During two years, 1897 samples were obtained from the patients suspected bacterial infections. They were investigated for bacterial cultures, age, sex and antibiogram patterns. The species were identified by biochemical and serological methods.

Results Of 1897 samples, 563 (29.6%) had positive bacterial culture. Of these 74.7% were gram negative and 25.3% gram positive. The most common species were *Escherichia coli* (34.1%), *Staphylococcus aureus* (17.1%), *Pseudomonas aeruginosa* (12.4%), *Kelebsiella* (11%) and *Staphylococcus epidermidis* (5.7%). The most effective antibiotics against both gram positive and gram negative bacteria were ceftriaxone, nitrofurantoin, nalidixic acid, amikacin and gentamycin.

Conclusion The gram negative bacteria in particular *Escherichia coli*, *Pseudomonas aeruginosa* and *Kelebsiella* are the predominant causes of bacterial infections in children under 14 in these regions. Most species showed a high relative resistance to routine antibiotics such as ampicillin, trimethoprim and chloramphenicol.

Infectious Diseases

PO-0260a EFFICACY OF MOBILE PHONE USE ON ADHERENCE TO NEVIRAPINE PROPHYLAXIS AND RETENTION IN CARE AMONG THE HIV-EXPOSED INFANTS IN PMTCT: A RANDOMISED CONTROLLED TRIAL

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Background HIV is a major contributor to infant mortality. A significant gap remains between the uptake of infant and maternal antiretroviral regimens and only a minority of HIV-exposed infants receives prophylaxis and safe infant feeding. Losses to follow-up of HIV-exposed infants are associated with shortcomings of facility-based PMTCT models with weak community support of linkages. Use of mobile phones offers an opportunity to improve care and promoting retention for the mother-baby pairs, which is a major challenge in efforts to achieving an HIV-free generation.

Objectives To compare self-reported adherence to infant nevirapine (NVP) prophylaxis and retention in care in HIV exposed infants randomised to 2-weekly mobile phone call versus control (no phone calls).

Design Randomised controlled trial.

Methods 150 mother infant pairs were drawn from postnatal wards of 3 health facilities in Kisumu, and randomly assigned to receive either phone-based reminders on PMTCT messages or standard health care messages (no calls). The group in the intervention arm received phone calls fortnightly. Data on infant adherence to nevirapine, retention in care, safe infant feeding and early HIV testing among HIV-exposed infants were collected by use of a questionnaire at the scheduled Maternal Child Health (MCH) visits (6 and 10 weeks). All analyses were intention to treat.

Results At 6 weeks follow-up, 90.7% (n = 68) of participants receiving phone calls reported adherence to infant NVP prophylaxis, compared with 72% (n = 54) of participants in the control group (p = 0.005). Participants in the intervention arm were also significantly more likely to remain in care than participants in the control group [78.7% (n = 59) vs. 58.7% (n = 44), p = 0.009 at 6 weeks and 69.3% (n = 52) vs. 37.3% (n = 28), p < 0.001 at 10 weeks].

Conclusions These results suggest that phone calls can be an important tool to improve adherence to infant NVP prophylaxis and retention in care for HIV-exposed infants.

PO-0260b COMPARISON OF VESIKARI AND CLARK SEVERITY SCORES IN CHILDREN WITH ROTAVIRUS GASTROENTERITIS

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Two diarrhoea severity scales, the 20-point Vesikari scale and the 24-point Clark scale, are commonly used to assess the efficacy of rotavirus vaccines. However, the two scales have been compared previously in only a few studies by using the same patients.

The study was aimed to compare the Clark and Vesikari scales and to determine whether modified classifications would provide a better correlation between the two scales.

A total of 200 children with rotavirus gastroenteritis (RVGE) were evaluated. Of these, 57% were classified as severe by the Vesikari scale, while only 1.5% by the Clark scale (p < 0.001). When the Clark 3-category scale was transformed into 2-category scale by merging mild and moderate categories as non-severe, a good correlation with the Vesikari scale could not be found. Using the median of the severity scores as the severity threshold, could not provide a better correlation between the two scales either. Transforming the Vesikari 2-category scale into a 3-category scale by further subdividing the severe category into two parts as moderate and severe (≥ 16), thus using a score of 16 point as the severity threshold, provided a better correlation between the two severity scales, but still did not achieve a good level of agreement. Furthermore, still 89% of all those with Vesikari score ≥ 16 were classified as mild or moderate by the Clark scale.

The Clark and Vesikari severity scales differ significantly in the definition of severe RVGE. Even the reclassification attempts

on the scales did not achieve a good correlation between the two scales.

PO-0260c PERTUSSIS EPIDEMIOLOGY IN IZMIR, TURKEY.

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Pertussis (whooping cough) is a highly contagious, life-threatening, vaccine-preventable respiratory infection. Adults can infect infants who have not completed their primary immunization schedule. Besides, the infection can be asymptomatic among adults so that the reported cases of pertussis reflect only a fraction of the actual number of the patients in Turkey. The aim of this study is to determine the antibody levels against B. pertussis toxin (PT) and filamentous haemagglutinin (FHA) in ages from 6 months to ≥60 years in Izmir, Turkey. The study population consisted of 400 healthy subjects. A cluster of sample design developed by EPI of the World Health Organization was carried out for the selection of the study population. Anti-PT and anti-FHA levels were tested by in-house ELISA in Public Health Institution of Turkey. Anti-PT IgG levels of <10 EU/ml, ≥10 EU/ml and ≥100 EU/ml were accepted as non-immun, immune and possible acute/recent infection, respectively. Of the study population 8.5% had <10 EU/ml, 68.2% had 10–100 EU/ml, and 23.3% had ≥100 EU/ml anti-PT IgG antibodies. According to anti-PT IgG antibody levels 23.7% of the cases were correlated with possible acute/recent infection. The incidence of possible acute/recent infection (≥ 100 EU/ml anti-PT antibodies) was highest among 10–14 and 20–29 years old. The incidence was lowest (18.9%) among 5–6 years old and increased in the school age and was highest (34.3%) among 15–19 years old. Although high infant pertussis vaccination coverage in Turkey, our results showed that, pertussis is endemic, particularly in adolescent and adults. Adolescent and adults can be a major reservoir for the disease who haven't completed their primary immunization.

PO-0260d THE USEFULNESS OF AN ANTIMICROBIAL STEWARDSHIP PROGRAM: EIGHT-YEAR TRENDS OF ANTI-INFECTIVE THERAPY IN A TERTIARY PAEDIATRIC HOSPITAL FROM BARCELONA

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Background and aims Antimicrobial drug resistance is a serious threat to public health worldwide. Antimicrobial stewardship program (ASP) information related to the paediatric population is scarce. This study assesses the usefulness of ASP instituted in 2005 in our centre.

Methods Retrospective study in a 214 bed-tertiary care paediatric hospital (52% patients in high-complexity areas), from 2005 to 2012. Variation in admissions, hospital complexity index,

mortality rate, bacterial resistance and invasive fungal filamentous infection (IFFI) episodes were recorded. Rates of systemic antibiotics (glycopeptides, aminoglycosides, carbapenems) and intravenous antifungal drugs consumption in admitted patients were assessed, calculated by drug units and related cost.

Results A significant decrease in the number of admissions (-27%) was observed but complexity index and number of transplants increased significantly (+206% and +14%, respectively), as episodes of proven and probable IFFI (+88%). ESBL E.coli and K.pneumoniae increased (5 to 7.6% and 13.8 to 20%) while AmpC hyperproduced Enterobacter cloacae remained stable (29.2 to 29.5%). Multiresistant P. aeruginosa (1.1 to 5%) and MRSA (6.5 to 12.2%) increased moderately. Mortality rate showed a decrease of 8%.

The use of aminoglycosides (-24%) and glycopeptides (-3%) decreased while carbapenem and antifungal drug use increased (+45 and +76%, respectively) less than complexity indicators along these years. Global antimicrobial cost slightly increased (+14%).

Conclusions Since ASP implementation a considerable proportional decrease in anti-infective drugs use in comparison to complexity indexes and severe infection episodes was observed without an increase in mortality. ASP should be implemented in all high-complexity paediatric hospitals to optimise patient's care.

Intensive Care and Paediatric Emergency Care Medicine

PO-0261 CLINICAL APPLICATION OF BIOMARKERS FOR CHILDREN WITH SEVERE ENTEROVIRUS 71 INFECTION

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Background Severe enterovirus 71 (EV71) infection in children can result in high morbidity and mortality. The purpose of this study was to use biomarkers for detection of EV71 infection with cardiac involvement.

Methods A total of 53 children, aged 2.5 ± 1.7 years, were studied. Patients were divided into three groups. Group I comprised 30 normal control patients. Group II included 20 patients with EV71-stage 2 infection, and group III included 3 patients with EV71-stage 3 infection. The demographic data, laboratory results and plasma BNP levels were statistically analysed.

Results All group II patients recovered completely without neurological sequelae. Two patients in group III were rescued by ECMO and successfully weaned off and survived without cardiac complications. The group III patients had higher plasma troponin-I, creatine kinase-MB fraction, B-type natriuretic peptide (BNP) level and BNP z-score than those of other groups. The median BNP values were < 5, 9.5 and 238 pg/mL, and median of BNP z-scores were -2.02, -0.22, and 6.11 in the three groups, respectively. Using a BNP cut-off value of 100 to identify cases with concomitant severe EV71 infection and acute heart failure, the sensitivity and specificity were 100% and 100%, respectively. The group III patients had higher urine catecholamine levels than those of group II (p < 0.01).

Conclusions Children with severe EV71 infection have varying degrees of myocardial stress that would be caused by