PO-0184 SEASONALITY OF ACUTE BRONCHIOLITIS IN HOSPITALIZED INFANTS OVER A 4-YEAR PERIOD

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Background and aims Bronchiolitis is the most common lower respiratory infection in infants and a leading cause of hospitalizations in this age group. To describe the rhythm and seasonality of the yearly epidemics of bronchiolitis in hospitalised children.

Methods Epidemiological analysis of patients who were admitted to our hospital with bronchiolitis, over an 4-year period, from 2008 to 2012. The epidemic onset and conclusion was established according to the first and last cases per months, respectively.

Results Data was collected from 389 patients, mean age: 59 days (5–739), 59% male. The mean length of stay was 5,9 days (2–71). There was no risk factor in 87% (10% premature and 1,5% heart disease). The clinical score at hospitalisation was mild (4%), moderate (43%) and severe (2,8%). The RSV was positive 67%. Epidemics begin in October (50%) and November (25%); the highest peak was observed in January, February and December and its conclusion varies between March and July. There were no cases in August and September.

Conclusion Bronchiolitis epidemics onset is in October and November and conclusion varies along time years in hospitalised infants. The most incidence months are January and February with no cases in August and September. It not seems that a late season is followed by an early season in a 2-year pattern as is described but they alternate between greater numbers of patients with other patients less.

Abstract PO-0184 Table 1 Incidence of bronchiolitis in each epidemic

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
2008–09		2	33	28	6					69
2009–10			7	41	48	15				112
2010–11	1	1	14	36	35	5	2	1		95
2011–12	2	3	31	55	12	5	4		1	113
	3	6	85	160	101	25	6	1	1	389

PO-0185 ACUTE RESPIRATORY TRACT INFECTIONS (ARTI) IN HOSPITALISED CHILDREN: VIRUSES, INTERFERON-ALPHA AND GAMMA, S-IGA LEVELS

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Background Detection of respiratory viruses, IFN-alpha, gamma, s-IgA levels in the first 3 years old hospitalised children within 3 days of symptom onset.

Methods The human viruses were detected in nasal wash specimens obtained from 86 children by polymerase chain reaction (PCR), IFN-alpha, gamma, s-IgA plasma and nasal wash specimens levels, IFN-alpha, gamma induced production *in vitro* were investigated. The IFN-alpha production was induced by

Newcastle disease virus, IFN-gamma production was induced by phytohemagglutinin.

Results Influenza virus B was detected in 35% investigations, A (H1N1) - 23%, A(H3N2) - 4%, Parainfluenza virus (PIV) - 5%, rhinoviruses (HRV) - 4%, metapneumovirus (HMPV) - 6%, bocavirus (HBoV) - 5%, Adenovirus (AdV) and Respiratory syncytial virus (RSV) - 9%. Seasonal features were found: A(H1N1) dominated in March (66.7%), B - in June (77,8%), PIV was recorded in March only. HRV and RSV were noted as the longest circulation (from January to May), AdV, HBoV, HMPV were detected from March to June. The s-IgA decrease less than 1.5 mg/ml was found in 75.8% children in nasal wash specimens. Serum IFN-alpha, gamma were decreasing below a sensitivity threshold (less 2 pg/ml) in 67.7% and 69.4%, especially in influenza children and in ARTI complications. The nasal wash specimens INF-alpha, gamma levels less than 2 pg/ml were found in 38.7% and 48.4%. The IFN-alpha, gamma induced levels *in vitro* were lowered in 22.6% and 40.3%.

Conclusions Our data demonstrate the IFN-alpha, gamma deficit in children with ARTI. It contributes IFN-alpha, gamma replaceable therapy in infants especially. This is very necessary the ARTI seasonal prevention.

PO-0186 INFLUENCE OF IL-10 GENE POLYMORPHISMS ON IMMUNE RESPONSES AFTER ACELLULAR PERTUSSIS BOOSTER VACCINATION IN ADOLESCENTS

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Background and aim Despite the mass vaccinations, pertussis has recently caused large epidemics in many industrialised countries. Vaccine-induced immune responses may be impaired due to polymorphisms in genes encoding regulatory cytokines such as IL-10. The aim of this study was to evaluate the role of IL-10 promoter polymorphisms on vaccine responses after acellular pertussis booster vaccinations.

Methods Seventy-five adolescents received diphtheria-tetanus-acellular pertussis (dTap) vaccination in 1997. They were followed at 3, 5 and 10 years after. At year 10, a second booster was administrated. Antibodies (n = 52) and cell mediated immunity (CMI) (n = 38) against pertussis antigens were measured. IL-10 polymorphisms (rs1800890 and rs1800896) were detected using Sequenom iPLEX Gold system.

Results After the second booster, rs1800896 was found to affect the geometric mean value (GMV) of proliferation (counts per minute, cpm) and stimulation index (SI) against pertussis antigens; pertussis toxin (PT), filamentous hemagglutinin (FHA), pertactin (PRN) (Table).

Another SNP (rs1800890) affected the CMI against PT and FHA after the booster vaccination. Also, the IgG antibody

Abstract PO-0186 Table 1

	Proliferation/cpm			SI		
	PT	FHA	PRN	PT	FHA	PRN
T/T (n = 10)	721,2	3651,6	1185,5	10,3	52	16,6
T/C (n = 21)	3208,9	4902,4	1907,8	63,7	97,3	37,8
C/C (n = 4)	112,8	665,4	196,7	1,8	10,7	3,2
p-value	0,008	0,021	0,075	0,001	0,037	0,031

concentration against PT and PRN differed significantly between the genotypes after the original vaccination, at 3-year follow-up and before the second booster.

Conclusion These preliminary results suggest that IL-10 might play an important role in modulating both antibody and cell mediated immune responses after pertussis vaccination.

PO-0187 **VALUE OF SERUM PROCALCITONIN LEVEL IN DIFFERENTIATION OF VIRAL AND BACTERIAL MENINGITIS IN CHILDREN ADMITTED EMERGENCY ROOM**

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Introduction Acute bacterial meningitis which is a paediatric emergency with high mortality and morbidity, must be diagnosed and treat promptly. Often diagnosis of bacterial meningitis from viral meningitis is difficult after some days. Determination of some inflammatory mediators example procalcitonin in serum and CSF were useful in differential diagnosis of bacterial and viral meningitis. The aim of this study is the finding out value for procalcitonin in meningitis.

Methods This research is a case control cross sectional study in all children with clinically suspected meningitis referred to paediatric emergency room. According to the clinical finding and results of CSF analysis, our patients were classified into two groups: bacterial meningitis and aseptic meningitis. For all cases CSF analysis and Culture was done and serum and CSF procalcitonin measured,. Finally the results Compared Groups. Data were analysed by SPSS Software.

Results There is no significant difference between two groups, in age, Sex, and symptoms. Serum and CSF procalcitonin, Leukocytosis >15000, PMN pleocytosis of CSF and also sugar and protein of CSF were significantly higher in bacterial meningitis. Serum and CSF procalcitonin levels in control group were less than 0.5 ng/ml and >2 ng/ml in bacterial meningitis and only one child (8.33%) in aseptic meningitis (Herpes meningoencephalitis) had serum procalcitonin more than 2 ng/ml same bacterial meningitis.

Conclusion Serum and CSF Procalcitonin level Could be used as a useful diagnostic in meningitis with the cut of point 0.5 ng/ml and in bacterial meningitis with >2 ng/ml.

PO-0188 **WITHDRAWN**

PO-0189 **FIVE YEAR STUDY ON EPIDEMIOLOGY, CLINICAL CHARACTERISTICS AND RISK FACTORS OF INVASIVE NON-TYPHOIDAL SALMONELLOSIS IN SINGAPORE**

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Introduction Non-typhoidal salmonellosis (NTS) can cause invasive disease in special groups of children. Increasing antimicrobial resistance and limited epidemiological data pose major limitations to therapy. This study aims to analyse the disease characteristics in Singapore children.

Methods Retrospective cross-sectional study of children aged 0–16 years with invasive NTS over a 5-year period (January 2006–December 2011). Invasive NTS disease was defined as NTS species identified from normally sterile extra-intestinal sites ie. Blood and cerebrospinal fluid cultures.

Results There were 51 cases of which 22(43%) were female and 29(57%) were male. The median age at presentation was 15 months. 45(88.2%) patients were under 4 years and the youngest was 13 days old.

Fever and/or diarrhoea were most common presenting complaints. All had temperature > 38°C and 40 (78.4%) had diarrhoea with 19(47.5%) having bloody stools.

Mean initial total white cell count and C-reactive protein were $12.8 \times 10^9/L$ and 64.2 mg/L respectively with Group D and B Salmonella species as the major isolates in 21(41.2%) and 17(33.3%). Group C accounted for 7(13.7%) while Group G / other non-typable ones contributed 6 (11.8%). Meningitis was confirmed in 3(5.9%). One child (1.9%) died of drug-related fulminant liver failure and there were no readmissions. Antibiotic resistance was noted in 16 (31.3%).

Conclusion There should be a high index of suspicion for NTS bacteremia in younger age group (≤ 4 years old) who present with fever and bloody diarrhoea. Initial inflammatory markers are not indicators of severity. Antimicrobial resistance in NTS in Singapore is low but needs vigilance.

PO-0190 **WITHDRAWN**

PO-0191 **VARICELLA COMPLICATIONS - COULD WE DO MORE?**

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Background and aims The purpose of this study was to retrospectively evaluate the severe chickenpox complications among immunocompetent children.

Methods During a 5-year period medical records of children aged.

Results We reviewed 269 cases with varicella admitted to Plovdiv University Hospital, Infectious Diseases Clinic from January 2009 to December 2013. One hundred ninety four were excluded as the reason for admission was dehydration. Another 53 patients, hospitalised due to epidemiological considerations were also excluded. Finally, 22 cases met the definition of severe complications – 12 girls, 10 boys (mean age 4,12). The most common complications were respiratory tract infections (17 cases), followed by thrombocytopenic purpura in 2 and cerebellar ataxia, sepsis and scarlet fever a single case of each one. Patients were admitted 4,8 days post the onset of varicella. The mean duration of hospitalisation was 5,7 days. Antibiotics were administered in all patients, in 11 acyclovir was also added. All recovered completely without any sequel.

Conclusion Severe complications were rare with respiratory tract infections being the most frequent. Haematological complications, although potentially life-threatening, were uncommon.

Our results indicate that further studies are needed for assessing the burden of varicella, and estimating cost effectiveness of varicella vaccine.