Feasibility of Pneumonia and Meningitis Surveillance in a District of Northern India

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Background: In order to evaluate the impact of implementing vaccines against *streptococcus pneumoniae* (SP) and *haemophilus influenzae* type b (Hib) for the prevention of meningitis and pneumonia, active surveillance of Hib and SP disease must be implemented. Therefore the feasibility of conducting surveillance for organisms causing pneumonia and meningitis was assessed in Haryana State in Northern India.

Methods: Less than two year-old children suspected of having pneumonia and/or meningitis were enrolled in 16 hospitals located at Yamuna Nagar and Jagdhar Towns from 1st July 2005 to 31st December 2006. After clinical examination, chest x-ray for suspected cases of pneumonia, and lumber puncture for suspected cases of meningitis, and blood culture for both pneumonia and meningitis cases were done. CSF was tested for biochemistry, culture, latex agglutination test and PCR. In addition to the hospital based study, a total of 9549 less than 2-year-old children from the community were also enrolled in the study from Khizrabad block which is located in the catchment area of the study hospitals. They were followed up till the end of the study period, i.e., 20th March 2007 or till they were two year old. At the time of child enrollment, the parents were informed about the signs and symptoms of pneumonia and meningitis, and were encouraged to take the child to one of the study hospitals for treatment. Nasopharyngeal swabs were taken from a sub-sample of 513 children from the study community who came for immunization.

Results: A total of 1002 children with pneumonia and 91 children with meningitis were enrolled in the study hospitals as per physicians’ diagnosis. Twenty cases had purulent meningitis. Among meningitis cases, two had *haemophilus influenzae* type b, two had *streptococcus pneumoniae* and one case had *neisseiria meningitis*. One case of pneumonia had *streptococcus pneumoniae* in blood culture. Among the children enrolled in the community, 251 were admitted in the study hospitals with pneumonia and 18 with meningitis. Two of these cases had purulent meningitis. Nasopharyngeal carriage of Hib and SP was 7.6% and 27.3% respectively.

Conclusions: Surveillance of pneumonia and meningitis is feasible in district level hospitals which can provide information not only about the impact of using vaccines to prevent Hib and SP but also about the serotype circulating in the community.

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Gastroenteritis and Some of Risk Factors Convulsion in Iranian Children

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Keywords: Gastroenteritis; Shigellosis; Convulsion; Children

Background: Gastroenteritis is one of the infectious diseases in children in developing countries. Its complications are dehydration, metabolic and electrolyte abnormality, fever and convulsion. Aim of this study is to reveal some of risk factors convulsions with gastroenteritis.

Methods: This descriptive study was done on 335 children 1–60 months who were admitted due to gastroenteritis in Department of Pediatric, Ali-Ebn Abitaleb Hospital, and Rafsanjan, Iran, during 2006. Among them, 52 patients with gastroenteritis and convulsion were studied.

Results: Among 52 patients with gastroenteritis and convulsion, 54% were male and 46% were female, 75% patients were less than 3 years old, 96% of cases had fever, 94% had watery diarrhea, 5.8% had dysentery, 74% had feeding with breast milk, 20% had feeding with formula, 6% with both. The results of laboratory tests were: 35% of cases had stool exam with many WBC and RBC and stool culture positive for shigella. Levels of serum electrolytes were: 76% normal serum calcium, 6% hypercalcemia, 8% hypocalcemia, 79% normal potassium, 19% hypokalemia, 2% hyperkalemia, 76% normal natrium, 10% hyponatremia, 14% hypernatremia. Level of serum glucose was: 45% normal and 55% hyperglycemia.

Conclusion: According to this study the most common risk factor of convulsion in children less than 3 years with gastroenteritis is fever. Electrolyte and metabolic abnormality and type of entropathogen are not important risk factors for convulsion in them.

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Gastroenteritis and Convulsion in Iranian Children: Clinical Feature

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Keywords: Gastroenteritis; Shigelloses; Convulsion; Children

Background: Gastroenteritis is one of the major causes of morbidity and mortality in developing countries. The purpose of this study is to reveal clinical feature of seizure in Iranian children with gastroenteritis.

Methods: This descriptive study was done on admitted 335 children 1–60 months with gastroenteritis in the Department of pediatrics, Ali- Ebn Abitaleb Hospital, Rafsanjan, Iran, during 2006.

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Characteristics of Persistent Diarrhea in Iranian Children Admitted to a Pediatric Hospital in Tehran 2006—07

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Background: As recent improvements in rehydration therapy has decreased the overall mortality rate of diarrheal diseases, persistent diarrhea (a diarrhea episode lasting at least 14 days with a presumptive infectious etiology) has been identified as a major health problem in developing countries.

Method: To evaluate some epidemiological and clinical characteristics and microbial etiology of persistent diarrhoea (PD), this study was conducted from June 2006 to June 2007 in a pediatric hospital in Tehran. Children aged less than 12 years admitted for acute diarrhoea, were followed prospectively until resolution of diarrhoea symptom. Patient demographics, characteristics of diarrhoeal diseases, diet and drug history were compared between acute and persistent group. Standard parasitological methods and PCR were used for detection of protozoa and bacterial enteropathogens in stool specimens. Data were analyzed using Chi square or Fisher’s exact test.

Results: PD developed in 19.6% of the total 424 diarrhoea episodes. Male to female ratio was similar in PD and acute diarrhoea (AD) group. The mean age in PD and AD cases was 15.3 and 29.4 months, respectively (P < 0.001). Proportion of related symptoms and dysentery was not different between the two groups. History of dietary change prior to admission (20.5% vs. 8.4% P = 0.014), Antibiotic (94% vs. 83% P = 0.013) and anticholinergic drugs (12% vs. 5.3% P = 0.026) administration in acute phase was significantly higher in PD than AD cases. Enteroaggregative E.Coli was the more prevalent pathogen in both groups, but a statistical difference between AD and PD cases was observed only for Salmonella (0% in AD vs. 2.4% in PD, P = 0.038). The frequency of malnutrition was similar in two groups. No deaths occurred due to diarrhea during this study.

Conclusion: PD seems to be a benign disease in this population. Young age, Antibiotic and anticholinergic drugs, diet change and Salmonella are some factors associated to PD.

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Neonatal Group B Streptococcal Infection: A 6-Year Experience in HUSM, Malaysia


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Background: Group B streptococcus (GBS) is a leading cause of neonatal bacterial infections. It causes severe sepsis which rapidly progresses despite of modern supportive therapy. In our setting, GBS screening in pregnant mother was not routinely done and antimicrobial prophylaxis was given to only selected cases.

Objectives: This retrospective study was designed to determine the trend of GBS infection during the past 6 years at the Hospital Universiti Sains Malaysia, as well as to assess the risk factors, clinical features and patient outcomes.

Methods: Medical records of infants with neonatal GBS infection identified by positive results of blood cultures and sterile body fluid in our hospital from January 2001 through December 2006 were reviewed for demographic and clinical data.

Results: There were 58 infants with neonatal GBS infection during the past 6 year in our hospital. Only 43 records were traceable. In 2001, there were only 5 cases of GBS infection, however the cases increased to 15 in the subsequent years and the number maintained constantly for the last 3 years in 2004 to 2006 (14 cases per year). Thirty two infants had early onset infections and 11 had late-onset infections. Sepsis was the most common clinical presentation in both early (21, 65.6%) and late onset group (9, 81.8%). Other clinical manifestations were pneumonia, Respiratory Distress Syndrome (RDS), meningitis and septic arthritis. The mortality rate was 15.6% in early onset group while no mortality was found in late-onset group. The organism was 100% sensitive to ampicillin and penicillin G. Sensitivity to erythromycin was within 86 to100%.

Conclusion: GBS infection seemed to have increased during the past 6 years in our hospital. Therefore, screening pregnant mothers during their pregnancy is necessary and the necessity of intrapartum prophylaxis should be emphasized.

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