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Background and Aims Aboriginal infants are at substantially higher risk for respiratory illness (RI) and respiratory syncytial virus (RSV) infection and hospitalization compared to non-Aboriginal infants. The purpose of the present study is to compare the hospitalization rates for RI events and RSV infection in Aboriginal infants versus non-Aboriginal infants in the CARESS database.

Methods A prospective, observational registry of infants from 30 Canadian sites who received ≥ 1 dose of palivizumab during the 2005–2011 RSV seasons. Utilization and hospitalization outcomes were collected monthly throughout respective RSV seasons.

Results 10,452 infants were recruited (318 Aboriginal; 10,134 non-Aboriginal). A greater proportion of Aboriginal infants had factors that increased their risk of RSV infection ($p < 0.05$): having siblings, being a multiple birth, exposure to smoking, and > 5 individuals in the household. Aboriginal infants were less compliant with treatment ($p < 0.05$) whether calculated by injection intervals or by expected number of injections during the season. Aboriginal infants had a significantly higher RI hospitalization rate (13.2% versus 6.2%, $p < 0.005$), but only a trend towards a higher RSV-positive hospitalization rate (2.64% versus 1.57%, $p = 0.059$). A Cox proportional hazards analysis restricted to Aboriginal infants found the risk of RSV-positive hospitalization was higher among non-compliant than compliant infants (hazard ratio = 9.2, 95% CI 1.1–76.7, $p = 0.04$).

Conclusions This study confirms that several demographic and environmental factors that are prominent in enhancing the risk of both RSV infection and overall RI hospitalizations are at play in Aboriginal infants. Ensuring compliance with prophylaxis will likely reduce RSV hospitalization rates in this vulnerable population.

863 IS CEREBRAL MALARIA OVER DIAGNOSED IN CHILDREN IN SUDAN?

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Background WHO defined cerebral malaria (CM) in 1990 as a clinical syndrome of Plasmodium falciparum infection with unrousable coma not attributable to another cause. This has been broadened by adding altered consciousness, severe anemia, and respiratory distress without laboratory confirmation in order to curtail mortality in children. This has resulted in overdiagnosis and overlooking other serious alternatives plus overburdening the scarce resources.

Aims To analyze the situation in Sudan by studying children admitted with clinical CM and do all the possible diagnostic work up in order to reach definitive diagnosis.

Patients and methods Patients belonged to the main hospitals in the capital Khartoum admitting to well organized emergency departments. Clinical and laboratory data were collected from children over 1 month of age admitted with clinical CM between April and November 2011. Patients were investigated for CM, acute bacterial meningitis (ABM) and Herpes encephalitis (HE).

Results One hundred and four children fulfilled the study criteria. CM was clinically diagnosed in 38 patients but only 5 were pure CM. Sixty three were suspected for ABM but 15 were confirmed cases. HE was definitively diagnosed in only one case. There were 5 cases of mixed infection and the rest were unknown and presumed encephalitis due to viruses other than Herpes simplex.

Conclusion CM was clinically over-diagnosed in our study. It is advisable to do all the necessary investigations, particularly a thorough blood film examination, before diagnosing CM. It is recommended to study cases that resemble CM for more detailed viruses disease.

864 ASSOCIATION OF FUNGAL INFECTION AND INCREASED MORTALITY IN CHILDREN WITH CHRONIC GRANULOMATOUS DISEASE

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Background The aim of this study was to determine the incidence of fungal infections, identify the most common fungal pathogens, and determine the risk factors associated with fungal infections and mortality in children with chronic granulomatous disease (CGD).

Material and Methods All of the patients were suspected to fungal infections. The data was gathered from the medical records of all children as having CGD. The diagnostic of fungal infections were confirmed by histopathology and direct preparation, culture techniques, histopathology of surgical biopsies, and radiological examination of the affected site.

Results We evaluated twelve cases of chronic granulomatosis Patients that they are susceptible to recurrent, severe infections. Children consisted of 7 males and 5 females. The median age of patients at the time of the study was 11.66 years (3 to 18). Neutrophil oxidative burst were absent (NBT=0) in all patients. Fungal infections were confirmed in five patients (41/7%) by histology and mycological methods. The most common isolated fungi in this study were Aspergillus sp. Out of 5 cases of fungal infections identified, three were Aspergillus species, and two Fusarium species. The most common manifestations of CGD due to fungal infections were osteomyelitis (42.8%), pulmonary infections (28.6%), lymphadenopathy (14.3%) and skin involvement (14.3%) during their illness.

Conclusion Invasive fungal infections are a frequent and life-threatening complication in CGD patients. The lungs and skeletal, were the most commonly affected organ; however, lymphatic, and skin involvement have also been described. Our present study showed that fusariosis also is a threat to CGD patients.

865 INTRANASAL MIDAZOLAM AND KETAMINE FOR GASTRIC ASPIRATES IN CHILDREN EVALUATED FOR SUSPECTED TUBERCULOSIS

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Background and Aims To confirm the diagnosis of pulmonary tuberculosis in children sequential gastric lavages are recommended. Limitations of gastric lavage include the need for an overnight fast, repeated specimens, and low sensitivity. Moreover, the procedure is very unpleasant for children, parents, and health workers; so sedation may be recommended. We evaluate the safety and efficacy of intranasal administration of midazolam and ketamine in uncooperative children undergoing gastric aspirates to diagnose pulmonary tuberculosis.

Methods We studied 11 children with suspected tuberculosis. Gastric lavages were done on three consecutive days after intranasal administration of midazolam (0.5 mg/kg) and ketamine (2 mg/kg) by a mucosal atomizer device. Pain score was assessed by the MOPS score, ranging from 0 to 10 (the higher the score the greater the pain experienced for the child). Gastric specimens underwent polymerase