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Distribution of Collagen Binding Proteins in Indian Isolates of Group A Streptococcus

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Background: Streptococcus is an important human pathogen which causes a wide variety of diseases. Various virulence factors like adhesins, invasins and toxins are known to contribute to its pathogenesis. The adhesin like collagen binding proteins (CBPs) binds to host resulting in Streptococcal autoimmune sequel like rheumatic heart disease. So far, no study has been made on this context from India. In this study an attempt has been made to study the expression of different CBPs in Group A Streptococcus (GAS) strains from North India.

Methods: Throat swabs were collected from the children (age group 5–15 yr) with the symptoms of rheumatic fever and confirmed for Group A Streptococcus. Strains were emm typed and studied for the presence of CBPs like cpa, cna, cne, scl1 and scl2 by PCR and real time-PCR analysis.

Results: The prevalence of GAS is found to be 6.6 per thousand in our community. The strains showed the presence of emm types- 11, 12, 42, 57, 66, 68 and 81.1. Among the five CBP genes, three were present in all the throat isolates studied. The results were further confirmed with real time PCR.

Conclusion: Prevalence of CBPs could be correlated with the virulence of GAS strains.

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Neonatal Tetanus at the Close of the 20th Century in Nigeria: the Role of Antenatal Care and Tetanus Toxoid Immunization

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Background and Objective: The year 2000 marked another failed World Health Organization deadline for neonatal tetanus (NNT) eradication. Existing preventive strategies can be enhanced by exploring factors involved in the persistence of the scourge.

Setting and Methods: The records of neonates admitted between 1996 and 2000 into the Wesley Guild Hospital, Ilesa, were analyzed.

Results: Out of 3051 total neonatal admissions, 162 (5.3%) had NNT. Eighty-nine (54.9%) mothers had clinic-based antenatal care (ANC), but only 59 (36.4%) had tetanus toxoid (TT) vaccines. The majority (66.7%) of them delivered at home or churches and others at either private clinics or primary health centres. Overall, the case fatality rate was 43.8%. The case fatality rate was significantly higher among babies whose mothers had neither clinic-based ANC (odds ratio [OR] = 2.62; 95% confidence interval [CI] = 1.33–5.18) nor

antenatal TT vaccination (OR = 2.41; 95% CI = 1.17–5.03).

Conclusion: Elimination of NNT in the 21st century in Nigeria requires not only improvement in ANC and anti-tetanus immunization; hygienic deliveries of all high-risk pregnant women are also crucial.

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Acute Q Fever in Hospitalized Patients with Community-Acquired Pneumonia

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Objective: The aim of the study was to determine the incidence and describe the clinical manifestations of acute Coxiella burnetii infection in adult hospitalized patients with community acquired pneumonia (CAP).

Materials and methods: A total of 403 adults hospitalized patients with CAP within five year period (2002–2007) were included in our study. The mean age of patients was 49,86 years, 211 (52,36%) were male and 192 (47,64%) female. Diagnosis of Coxiella burnetii infection was established by serological confirmation by detection of IgM and IgG antibody against Coxiella burnetii Ag with Pneumoslide M and G (Viracell) IF test and/or Coxiella burnetii IgM, IgG (Viracell) ELISA test in paired sera.

Results: Acute Coxiella burnetii infection as a cause of CAP from 403 patients was detected in 56 (13,89%), but as an only cause of infection was detected in 51 (12,66%) patients (five patients had mixed etiology). About 90,2% of this patients lived in urbanized areas. The most frequent clinical presentation was an acute febrile process (86,27%) and headache (50,98%). Respiratory symptoms were infrequent. Nausea, vomiting and diarrhea were rare. The total white blood cell count is usually normal, with 41,5% of patients having an elevated count. The most common liver function alteration was elevated transaminase levels (70,59%). Radiologic findings showed lobar opacity in 8 patients, segmental in 19, and interstitial in the rest of the patients. The most frequent empirical treatment consisted of beta-lactams and tetracyclines in 29,41%, beta-lactams and quinolones in 25,49%, macrolides alone in 11,76%.

Conclusions: Coxiella burnetii infection is common in Macedonia and early diagnosis and appropriate treatment is important.

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