ISOLATION AND CHARACTERIZATION
OF GROUP B STREPTOCOCCI FROM CLINICAL
AND NON-CLINICAL SOURCES IN ENUGU STATE.

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ABSTRACT

In a comprehensive study to assess the rate of vaginal carriage of Group B Streptococci (GBS) in pregnant and non-pregnant women, the impact on neonates and couples that visited infertility clinics in parts of Enugu state, a prevalence study was carried out between June 2007 and September 2008 involving analysis of a total of 590 samples (275 clinicals and 315 non-clinicals). All samples were cultured on a modified Islam medium and identification carried out by standard bacteriological methods. The 275 clinical samples, were cultured from 119 pregnant and 79 non-pregnant women, 52 neonates and 25 infertility couples (7 primary and 18 secondary) respectively seen at the Institute of Child Health, of the University Teaching Hospital Enugu and from Amblim Reference Laboratory where they were referred to from some infertility clinics in the area. Generated data were subjected to statistical analysis. Positive results showed that a total of 14(11.8%) were from pregnant women, while 6 (7.6%) were from non-pregnant women, of which when tested statistically was found to be significant (P < 0.05). Positivity amongst pregnant women when correlated with parity and gestational age was found to be significant (R^2 = 0.000738). Five (9.6%) neonates gave positive growth and 18 (72%) samples for secondary infertility gave positive results. No GBS was isolated from primary infertility cases. There was statistical significant difference between the couples with secondary infertility and those with primary infertility (P < 0.05). Of the total of 315 non-clinical samples cultured consisting of 275 cattle udder samples from Fulani settlements in parts of Enugu state, 10 meat slabs from abattoirs, 30 milk products “Fura-da-nunu” from hawkers from parts of Enugu state, 11(4.0%) and 25 (83.3%) from the cattle udders and milk products were positive respectively for GBS. However, no statistically significant difference was observed between clinical and non-clinical samples in terms of recovery of GBS (P>0.05). Characterizations of the GBS isolates were carried out using sodium hippurate reactions, aesculin reactions, Christie, Atkin Muchin – Patterson (CAMP) test and definite haemolytic hydrolysis on blood agar. Isolates showed typical reactions for GBS. Pathological studies were conducted using three representatives each, selected from pregnant, non-pregnant, neonatal, infertility and non-clinical sample isolates using adult mice. Out of the fifteen adult mice used, 5 were pregnant (14days). Histological evidence of degenerative changes, inflammation and infiltration were recorded in the liver and uterus. All the pregnant mice aborted between 2-5days after inoculation of the organisms. The aborted infants gave positive isolation of GBS from various sites swabbed. This probably suggests some toxic effects by GBS and its probable effect on the uterine muscles and endometrium that may have contributed to the abortion episodes. The exact involvement of GBS in these clinical entities and the extent of the damage need further studies.