Original Research Paper Medical Science

Screening for Group B Streptococci in Antenatal Women

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ABSTRACT

Infections are an important factor to maternal and perinatal morbidity and mortality rates .The relative immunosuppression that occurs during pregnancy may alter the natural course of infectious diseases.GBS (streptococcus agalactaciae) has been recognised as one of the most important causes for neonatal infection and postpartum infections. Our study deals with the prevalance of group B streptococcal infection in normal asymptomatic primi gravida of gestational age 35-37 weeks attending antenatal clinic and the incidence of preterm labour , premature rupture of membrane , prolonged labour ,mode of terrmination of pregnancy and fetal outcome in GBS positive mothers

KEYWORDS

SUBJECTS AND METHODS :

Cross sectional study of 250 primigravida women of gestation age 35-37 weeks attending the antenatal clinic of R.S.R.M Lying in the hospital ,Stanley medical college ,Royapuram ,CHENNAI were recruited for the study based on the inclusion and exclusion criteria

INCLUSION CRITERIA :

1. All pimi gravida of gestation age 35-37 weeks
2. Cephalic presentatiom
3. NO history of intake of antibiotics during the past 2 weeks
4. NO preexisting medical disorders

EXCLUSION CRITERIA :

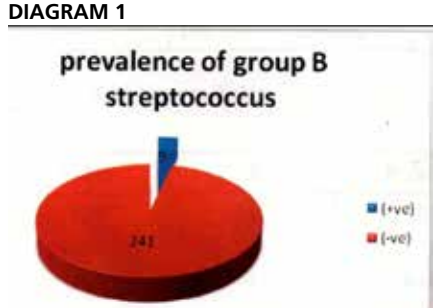
1. Primi gravida less than 35 weeks of gestation
2. Non cephalic presentation
3. HIGH RISK PREGNANCIES
4. Multi gravida
5. History of intake of antibiotics during the past two weeks
6. Preexisting medical or surgical disorders

Samples are taken by swabbing the skin from vaginal introitus to the anus without using the speculum.Materials are transporeted using AMIES medium. The transported medium are transferred to suitable selective broth medium like TODD HEWITH broth supplemented with either gentamycin 8 microgram/ml or nalidixic acid 15 microgram/ml. The inoculated selective broth is incubated for 18-24 hours at 35-37 C in ambient air or with 5% CO2. GBS was identified using CAMP. GBS positive and negative women are followed up for the rest of the antenatal period. All the parameters were studied for all the 250 women and the data was analysed using CHI SQUARE test .The significant parameters were further studied using odds ratio and the confidence limits were arrived. p value of <0.05 is statistically significant

DISCUSSION :

The total number of subjects screened was 250 out of which 9 patients were found to be positive for Group B streptococcus and 241 were found to be negative for the culture .Prevalence of Group B streptococcus in primi gravida is 3.6% depicted in diagram 1

DIAGRAM 1

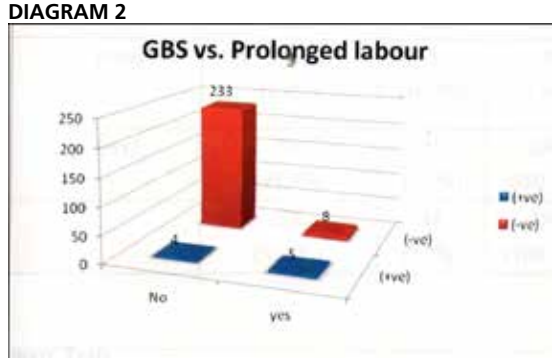


The prevalence of GBS in a lower and middle socio economic group was analysed; there was no significant correlation between lower and middle socio economic group and GBS colonization

The mode of onset of labour in both group B streptococcal positive and negative women was compared among which 5 patients (55.6) in positive group and 196 (81.3) in the negative group went in for spontaneous labour. 1 (11.1) patient in the positive group and 3 (1.2) in the negative group underwent elective LSCS for non obstetric indications. 3(33.3) in the positive group and 42(17.4) in the negative group were induced electively. The percentage of patients who went for spontaneous labour was slightly more in the positive group than in negative group . However this association was statistically insignificant

The percentage of patients who went for prolonged labour was 55.6% (5) in positive group and 3.3%(8) in negative group as depicted in diagram 2

DIAGRAM 2



The association of increased duration of labour with group B streptococcal was found to be statistically significant with p value of 0.00

3(16.7%) patients who were colonized with the GBS went in for preterm labour whereas 15(6.2%) patients who were not colonized with GBS developed preterm labour as depicted in diagram 3

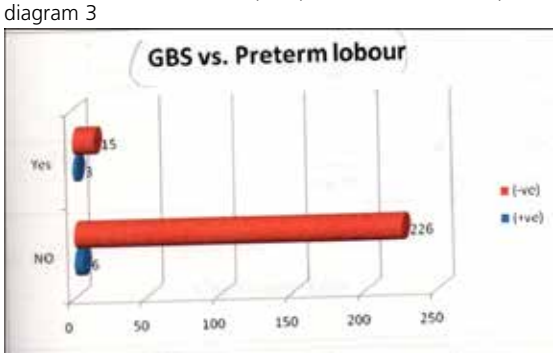
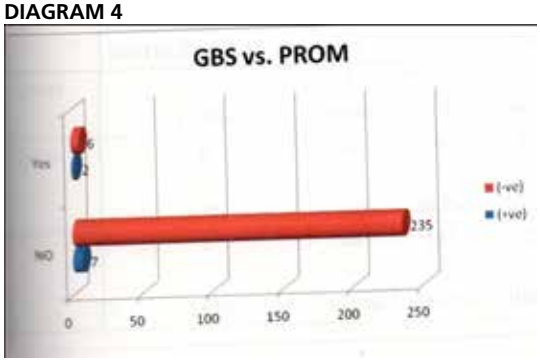


DIAGRAM 3

The association between preterm labour and GBS positive women was found to be statistically significant with p value of 0.002

Number of patients who developed premature rupture of membrane was found to be 2(25.0%) and 6(2.5%) in group B streptococcal positive and negative women respectively depicted in diagram 4

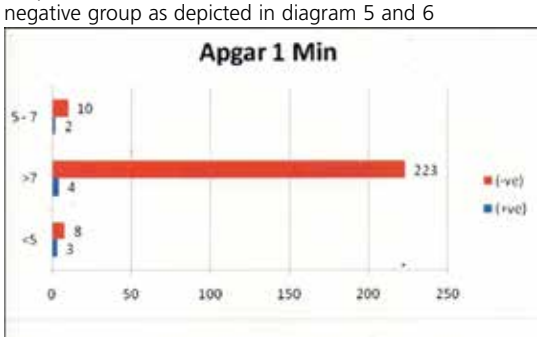
DIAGRAM 4

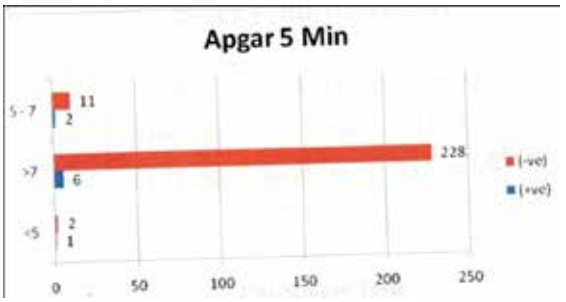


The association of premature rupture of membrane with streptococcal colonization was found to be statistically significant with p value of 0.001

The mode of delivery in all the patients was followed and found that the incidence of LSCS in GBS positive patients was found to be 55.6% and the GBS negative group was found to be 17%. LSCS delivery is more common in group B Streptococcal positive patients than in negative patients with p value of 0.003

The APGAR score of all the babies born to the study group was observed and it was found that babies born to group B streptococcal colonized mother had low APGAR score than negative group as depicted in diagram 5 and 6



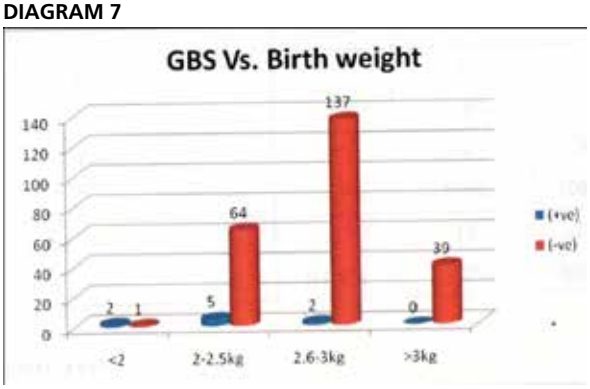


The association of such low APGAR scrores was found to be statistically significant with p value of 0.000 for 1 minute APGAR and 0.001 for 5 minute APGAR

It was found that 66.7% of the babies born to the mother in the positive groups were having birth weight less than 2 kg, where as 98.6% of newborn in the negative group were having birth weight in the range of 2.6 – 3 kg

The association between low birth weight ang GBS positive women is statistically significant as depicted in diagram 7 by p value of 0.000

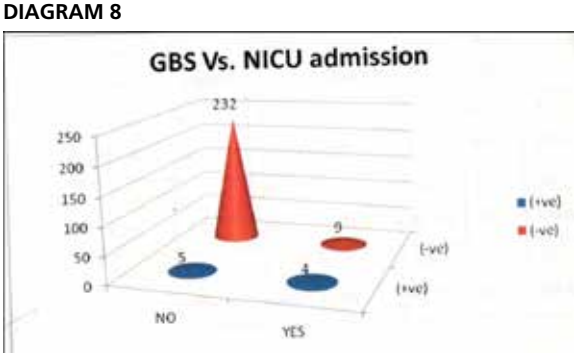
DIAGRAM 7



The number of babies admitted in NICU in group B streptococcal positive group were 4(30.8%|) , 3 due to LBW (60.0%) and 1 due to FETAL DISTRESS (25%) and in the negative group were 9(3.7%), 2 DUE TO LBW (0.8%) , 3 due to fetal distress (1.2%), 4 due to other causes

There was significant association between positive patients and the neonatal admission as depicted in the diagram 8 by p value of 0.000

DIAGRAM 8



Out of 9 babies born to GBS positive mother one baby died of sepsis (0.4%) due to streptococcal bacteremia and 2 deaths in negative group one due to anomaly and another due to meconium aspiration syndrome

There was no statistical signifance between the GBS status of mother and neonatal mortality when compared among the two groups

Maternal morbidity was measured in terms of fever , wound infection , chorioamnionitis,etc. In our study it was observed GBS positive group one had fever another one had wound infection . In GBS negative group one had wound infection and another one had fever.

There is statistically significant association between GBS POSITIVE women and maternal morbidity with p value of 0.000

DIAGRAM 9

CONCLUSION :

From the above statements it could be inferred that the screening of all the pregnant women at 37-38 weeks of gestation ,serves to be an important factor in reducing the incidence of preterm labour , premature rupture of membrane , prolonged labour , operative delieveries and hence decrease the probability of LBW , low APGAR scores and subsequent morbidity and mortalty of both mother and the new born.. This points out the importance of GBS screening during AN period and the need to include it in the screening protocol of our health systems.