

**THE ASSOCIATION OF MATERNAL VAGINAL COLONIZATION OF GROUP B  
STREPTOCOCCI (GBS) AND PRETERM LABOUR.**

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**ABSTRACT**

**OBJECTIVE:**To study the association between colonization with maternal GROUP B STREPTOCOCCUS and preterm labour.**MATERIALS AND METHODS:**All antenatal women with gestational age 35 -37 weeks attending the clinic at Rajah muthiah medical college and hospital were taken vaginal swab culture. The results were studied using chi square test and P value <0.05 were considered significant.**RESULTS:**The prevalence of maternal GBS colonization was found to be 4%.GBS colonization was found more frequently with preterm than term delivery. The association between GBS and preterm labour was found to be statistically significant. One case of neonatal sepsis occurred during study period.**CONCLUSION:**Maternal colonization prevalence found to be 4% in our centre. Maternal colonization is found to be associated with preterm labour.

**Keywords:** Group B Streptococci (GBS), preterm labour.

**1.INTRODUCTION**

Group B Streptococci (GBS) infection is considered as an important cause of neonatal mortality and morbidity, presenting as sepsis, pneumonia. Preterm delivery is relatively common in obstetrics. It consists 7-11% of all deliveries but accounts for more than 80% of perinatal morbidity (8). Recently, the association of maternal GBS colonization with preterm labour has become a subject of controversy. In 1996, centers for disease control and prevention, accounted preterm delivery as a risk factor for Group B Streptococcal sepsis and recommended the use of prophylactic antibiotic in preterm labour(9). Feiken et al study in 2001 also indicated an association between GBS colonization and preterm labour (10). On the contrary, other investigators reported no association between GBS colonization and preterm labour.

**2.MATERIALS AND METHODS**

This study was conducted during the period from sep 2013 to sep 2015.During this period all primi gravida between 35-37 weeks were vaginal culture by swabbing the skin from vaginal introitus to anus without using the speculum.

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materials are transported using amies medium and the transported medium are transferred to suitable selective broth medium like Todd hewitt broth.The broth is then incubated for 18-24 hrs at 35-37c in ambient air or with 5% co2.GBS was identified using CAMP(christie ,atkins & munch petersen test),preterm labour was considered as occurrence of four uterine contractions plus cervical dilatation greater 1cm and effacement 80% before 37 weeks.multiple pregnancy,high risk pregnancy ,multigravida were excluded.

**3.RESULTS**

Of the 125 patients in our study,5 patients were found positive and the prevalence of maternal GBS colonization was found to be 4%.The majority of women in both groups were young and majority of women in both groups were from low socio-economic status.

In our study, 3 patients out of 5 from positive group (60%) and 5 patients out of 120 from negative group (4.2%) went in for preterm labour.one case of neonatal sepsis were found in our study.

**STATISTICAL ANALYSIS**

**Preterm labour \* GBS**

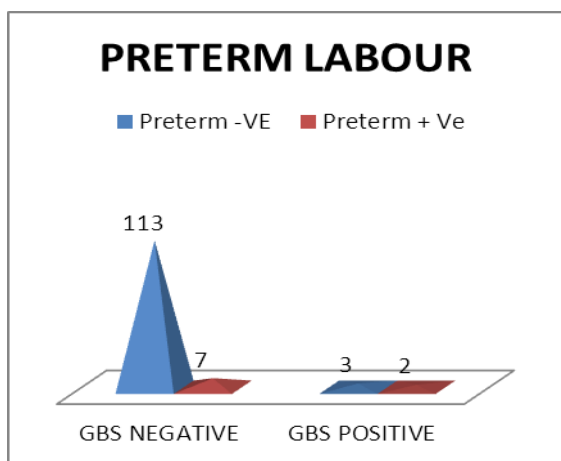
TABLE 1

		GBS		Total
Preterm	Negative	Positive		
No	115 (95.8%)	2(40.0%)	117(93.6%)	
Yes	5(4.2%)	3(60.0%)	8(6.4%)	
Total	120(100.0%)	5(100.0%)	125(100.0%)	

P value 0.000

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.979 <sup>a</sup>	1	.000

**4.DISCUSSION**

Maternal colonization rate was calculated to be 5% in our study. Reported GBS colonization rates in the world are quite variable, but generally range from 6 to 30%.5.

In India many studies have shown low colonization rate and low infection rate(1-4). However on closer analysis, taking into consideration use of adequate culture techniques and reported from India and other developing countries are similar to those reported in United States(5)

In TABLE 1, The incidence of preterm labour in GBS positive women was analyzed

Feikin DR, Thorsen P et al(4) found that the incidence of preterm labour in GBS positive women was 14.00%(10) Regan JA, Klebanoff, Nugent(1) found that the incidence of preterm labour in GBS positive women was 14.

Despite significant GBS colonization rates, reports of invasive neonatal GBS disease is infrequent. During ten year study in Vellore, only 10 cases of neonatal GBS infection were identified, giving an incidence of 0.17 per 1000 live births(6). However, this number represents only the cases occurring among deliveries in tertiary hospital located predominantly rural community. In India where 65% of women give birth at home, the true incidence of invasive GBS disease in the newborn is largely unknown(7).

McDonald H, Vigneswaran R, O'Loughlin JA conducted a prospective study vaginal swabs are collected from 692 women at 24 weeks of gestation and cultured for GBS. GBS was detected in 91 women i.e. 13.2%. The rate of preterm labour was significantly higher in GBS positive 18.7% than in GBS negative women 5.5%. The rate of preterm rupture of membrane is higher in GBS positive women 9.9%(12).

Present study shows that the 3 patients (60%) who were colonized with the GBS positive went in for preterm labour whereas 5 (4.2%) patients who were not colonized with GBS developed preterm labour. The association between preterm labour and GBS positive women was found to be statistically significant, P value 0.00

The incidence of preterm labour was found to be 7 to 10 times more common in patients colonized with GBS, than when compared to patients who were non-colonized.

In all the above references and the present study, the association between GBS positive and preterm labour found to be statistically significant.

Researchers have shown that the risk of early onset sepsis in colonized neonates is increased in case of prolonged membrane rupture, maternal signs of infection, amnionitis, or the baby has low birth weight or is born preterm.

Although the colonization rate of GBS is relatively low in our center, it can be regarded as a risk factor for preterm labour. Therefore, prophylactic antibiotic therapy should be considered in these patients. Older women are susceptible to be colonized with this microorganism. More investigations are required to confirm the association of age and colonization rate.

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