GROUP B STREPTOCOCCUS COLONIZATION IN OBESE AND DIABETIC PREGNANT WOMEN.

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INTRODUCTION AND OBJECTIVE

Group B streptococcus (GBS) is a common gastrointestinal and lower reproductive tracts commensal. It is a known perinatal pathogen involved in neonatal meningitis, pneumonia, septic abortions and chorioamnionitis. Intrapartum chemoprophylaxis has been shown to decrease early neonatal GBS disease.

Maternal obesity and gestational diabetes have been suggested as risk factors for rectovaginal Group B streptococcus colonization. Many studies have linked obesity to GBS colonization in both pregnant and nonpregnant women. Besides, pregnant diabetic women appear to have higher group B streptococcus colonization rates when compared to pregnant women without diabetes.

The objective of this study was to investigate the association between obesity and maternal diabetes with GBS colonization in a term cohort of a non-tertiary community hospital.

MATERIAL AND METHODS

We conducted a retrospective cohort study on 413 women with singleton term pregnancies who gave birth consecutively between January and March 2015.

Maternal body mass index (BMI) was calculated from the patients’ weight and height at the beginning of the pregnancy. Obesity was defined as BMI ≥ 30kg/m².

The diabetic group included both pregestational and gestational diabetes mellitus.

Culture specimens for group B were obtained with a sterile swab from the lower vaginal walls and rectum at 34-36 weeks of gestation.

Baseline characteristics were compared using univariable analysis. Student T-test and Chi-square or Fisher’s exact tests were used for continuous or categorical variables respectively. Their association with GBS colonization was assessed using odds ratios with 95% confidence intervals. A p < 0.05 was indicative of statistical significance. PASW-18 software was used for data analysis.
SUMMARY RESULTS

Of the 413 women admitted in labor at term during the study period, 27 had an unknown GBS status and were excluded from the study. The prevalence of GBS colonization in the entire cohort of 386 women was 23.3%.

**OBESITY AND GBS**

![Graph showing obesity and GBS](image1)

Regarding body mass index, we found 321 non-obese women and 65 obese women. 36 of 231 (11.2%) non-obese women were identified carriers of group B streptococcus; compared to 54 of 65 (83.1%) obese women (OR 38.86, 95% CI 18.63 – 81.067).

**DIABETIC AND GBS**

![Graph showing diabetes and GBS](image2)

Regarding body mass index, we found 321 non-obese women and 65 obese women. 36 of 231 (11.2%) non-obese women were identified carriers of group B streptococcus; compared to 54 of 65 (83.1%) obese women (OR 38.86, 95% CI 18.63 – 81.067).
Regarding gestational and pregestational diabetes, we identified 355 non-diabetic women and 31 diabetic women. 73 of 355 (20.6%) non-diabetic women were colonized by BGS, compared to 17 of 31 (54.8%) diabetic women (OR 4.69, 95% CI 2.21 – 9.958).

CONCLUSIONS

Our cohort study showed a significantly increased risk of Group B streptococcus colonization in obese and diabetic pregnant women at term. We found a higher GBS colonization rate in the pregnant obese and diabetic population. Our findings suggest that maternal obesity and gestational diabetes are factors that need to be considered in strategies for reducing group B streptococcus disease in neonates.