TITLE: PHENOTYPIC ANALYSIS OF *Streptococcus agalactiae* FROM PREGNANT WOMEN

AUTHORS: SILVA, L.L; MELO, S.C.C.S.; PELLOSO, S. M.; SANTOS, N.C.S.; CALEFFI-FERRACIOLI, K.R.; PÁDUA, R.A.F.; CARDOSO, R.F.; SIQUEIRA, V.L.D.; ALMEIDA, A.L.; SCODRO, R.B.L.

INSTITUTION: UNIVERSIDADE ESTADUAL DE MARINGÁ, MARINGÁ, PR (AVENIDA COLOMBO, 5790, 87020-900, MARINGÁ-PR, BRASIL)

ABSTRACT:

Streptococcus agalactiae, as known as Group B streptococcus (GBS), is a frequent colonizer of vagina and gastrointestinal tract. GBS infection can be transmitted to the newborn during mother´s labor, causing diseases such as septicemia, pneumonia and meningitis. In 2010, the Center for Disease Control and Prevention (CDC) recommended the screening of GBS from vaginal and anorectal specimens, for prevention diseases in pregnant and newborns. Although GBS is often found as a colonizer of the human body its identification is not always easy. In this context, our study aimed to evaluate phenotypically clinical isolates of GBS from pregnant women from 18ª Regional de Saúde do Estado do Paraná and show the importance of a correct identification. A cross-sectional study was performed with pregnant women ≥ 35 weeks of gestation. This study was approved by the Ethics Committee of the Universidade Estadual de Maringá, Paraná, Brazil (n. 236/2011). Vaginal and anorectal specimens were collected from 394 patients with sterile swabs and plated on defibrinated sheep blood agar after seeded in Hitchens-Pike-Todd-Hewitt (HPTH) medium and Todd-Hewitt broth (supplemented with gentamicin and nalidixic acid), followed by a biochemical and serological identification such as: Gram stain, type of hemolysis, catalase, bacitracin and trimethoprim/sulfamethoxazole (TMP/SMX) susceptibility, hippurate and bile-esculin hydrolysis and latex agglutination using a streptococcal grouping kit (Oxoid, Hampshire, UK) according to the manufacturer's instructions. A total of 278 clinical isolates were positive for *S. agalactiae* from 394 pregnant, some were isolated from the same patient, but in different media. Our results showed that 96.04% (267) of GBS colonies were β-hemolytic and 3.96% (11) γ-hemolytic; 98.20% (273) were positive to hippurate hydrolysis and 86.70% (241) and 74.01% (206) were resistant to bacitracin and TMP/SMX, respectively. All clinical isolates were catalase negative, bile-esculin negative and group B for latex agglutination. Some studies considered GBS only as β-hemolytic, bacitracin and TMP/SMX resistant and hippurate positive. However, we noticed that GBS has some variations in its phenotype, especially the hemolysis. In this case, clinical isolates from prenatal GBS screening should be better analyzed phenotypically to avoid misunderstandings that may lead to erroneous results, which may endanger the newborn and the health of the pregnant woman.

Keywords: *Streptococcus agalactiae*, phenotype, pregnant.