

TITLE: DISTRIBUTION OF CAPSULAR TYPES OF *Streptococcus agalactiae* RECOVERED FROM PREGNANT WOMEN DURING 16 YEARS

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Streptococcus agalactiae (Group B *Streptococcus* - GBS) is a major cause of serious neonatal infections, such as septicemia and meningitis. The maternal vaginal colonization represents an important risk factor for infection in the newborn, because microorganism can be vertically transmitted to the child during gestation or birth. Approximately 50% of neonates born from women colonized by GBS will also be colonized, with 1 - 2% developing early neonatal infection. Maternal immunization against GBS is a promising alternative to prevent neonatal infections. GBS capsule, a polysaccharide structure, with 10 described types (Ia, Ib, II-IX), is an important virulence factor and epidemiological marker. Capsule also represents the vaccine target at a more advanced stage of development, with a five polysaccharide-carrier protein conjugated vaccine (Ia, Ib, II, III and V, conjugated to CRM197 carrier) under clinical trials. Considering that capsular type distribution varies among isolates recovered in different regions, it is fundamental to determine the predominant capsular types in each geographical area, generating epidemiological data and evaluating vaccine impact. The objective of this study was to determine the distribution of capsular types of *S. agalactiae* recovered from pregnant women assisted in the metropolitan area of Rio de Janeiro over a period of 16 years (March 2002-March 2018). Four time intervals were defined in order to enhance analysis (2002-05, 2006-09, 2010-13 and 2014-18). This study included 99 bacterial isolates (one isolate of each subject) recovered from vaginal secretion and urine specimens. Isolates were submitted to conventional phenotypic tests to species identification. Multiplex-PCR was performed to determine the capsular types. The most frequent types were Ia (36.4%), II (26.2%) and V (19.2%). Other types found were Ib (9.1%), III (7.1%) and IV (2%). Fluctuations in distribution of types were observed, as type III being detected only in 2006-09 and 2014-18. Type V varied from the second most detected in 2002-05 to the less detected in 2014-18, while type Ia was the most frequent in all time intervals. According to the distribution of capsular types, the theoretic impact of the conjugated vaccine would be high in this population.

Keywords: *Streptococcus agalactiae*, capsular typing, vaccine.