

VAC_16 - What is new in the distribution of *Streptococcus agalactiae* vaccine targets during Covid-19 pandemic in Rio de Janeiro?

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Introduction: Antibiotic usage has increased worldwide during Covid-19 pandemic, due to the outcome of secondary bacterial infections. In Brazil, a fact of concern, was the controversial recommendation of azithromycin for “early treatment”, by former national health authorities. The unnecessary use of antibiotics represents an extraordinary selective pressure that impacts bacterial populations. *Streptococcus agalactiae* (Group B *Streptococcus* - GBS) is a major cause of severe neonatal infections, such as septicemia and meningitis, and maternal vaginal colonization is the most important risk factor for infection in the newborn. To overcome this problem, drugs such as penicillin and clindamycin have been used as intrapartum prophylaxis, and vaccine strategies are under clinical trials. The polysaccharide GBS capsule, with 10 described types (Ia, Ib, II-IX), is a virulence factor, epidemiological marker, and also the vaccine target at a more advanced stage of development. Although GBS isolates of types Ia, Ib, II, III, and V are prevalent, their distribution varies around the world.

Objectives: The objective of this study was to analyze the prevalence of GBS capsular types recovered from pregnant women resident in Rio de Janeiro, before and along Covid-19 pandemic.

Methodology: The study included 90 GBS isolates, recovered from vaginal secretion (49) and urine (41) between January 2019 and September 2022. Capsular types were determined by multiplex-PCR.

Results: The most frequent types were Ia (35; 38.9%), III (25; 27.8%), V (16; 17.8%), and II (11; 12.2%). Other types found were Ib (2; 2.2%) and IV (1; 1.1%).

Conclusion: Compared with our previous study, with GBS recovered until 2018, it is possible to observe the maintenance of type Ia isolates as the predominant population. However, changes in the prevalence of isolates types III and II were detected. Type III has raised from 4th to 2nd place and type II has followed the opposite trend. Type III isolates have been prevalent in other countries, in both infection and colonization sites, and reasons for the observed change should be investigated. The knowledge of capsular type distribution is essential to generate local epidemiological data and to predict the impact of capsule-based vaccines in the circulating GBS population.

Keywords: *Streptococcus agalactiae*, vaccine, capsular typing