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Serotype distribution of *Streptococcus agalactiae* among pregnant women attending selected antenatal clinics in the Western Province of Sri Lanka

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Background: *Streptococcus agalactiae* (Group B streptococcus-GBS), a major cause of neonatal morbidity and mortality is transmitted from mother to neonate via placenta or during birth. The capsular polysaccharide is one of the most important virulence factors in GBS, and 10 serotypes (Ia, Ib, II-IX) have been identified. Data regarding GBS serotypes in pregnant women are limited in Sri Lanka.

Objective: To investigate the distribution of GBS capsular serotypes among pregnant women attending antenatal clinics in selected hospitals in Western Province of Sri Lanka.

Methods & Materials: A descriptive cross-sectional study was conducted in four teaching hospitals and 165 pregnant women of more than 35 weeks of gestation were enrolled. Low vaginal and rectal swabs were collected separately, culture performed, and GBS were identified by standard microbiological methods. DNA was extracted from culture isolates and was checked for nine serotypes (Ia, Ib, II, III, IV, V, VI, VII, VIII) by multiplex PCR targeting capsular genes with previously published primers. Amplification was done by 94 °C for 30 s, 58 °C for 1 min, and 72 °C for 1min for a total of 30 cycles. Amplified product was subjected to electrophoresis in 2% agarose gel.

Results: The prevalence of GBS colonization was 27.8% (41/165) in vaginal samples and 3% (5/165) from rectal samples. Among the 46 GBS-positive pregnant mothers, most abundant serotype detected was type III, 23.9% (11/46), while the serotype VII and VIII were not detected. Furthermore, serotype Ia (19.5%), II (19.5%), V (17.3%), VI (15.2%), Ib (2.1%) and IV (2.1%) were also identified using this method.

Conclusion: GBS colonization rate in the study population is 27.8% (41/165) and the most prevalent serotype is type III (23.9%) followed by Ia (19.5%), II (19.5%), V (17.3%) and VI (15.2%). This study provides the basic knowledge for GBS vaccine development and disease prevention.

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