

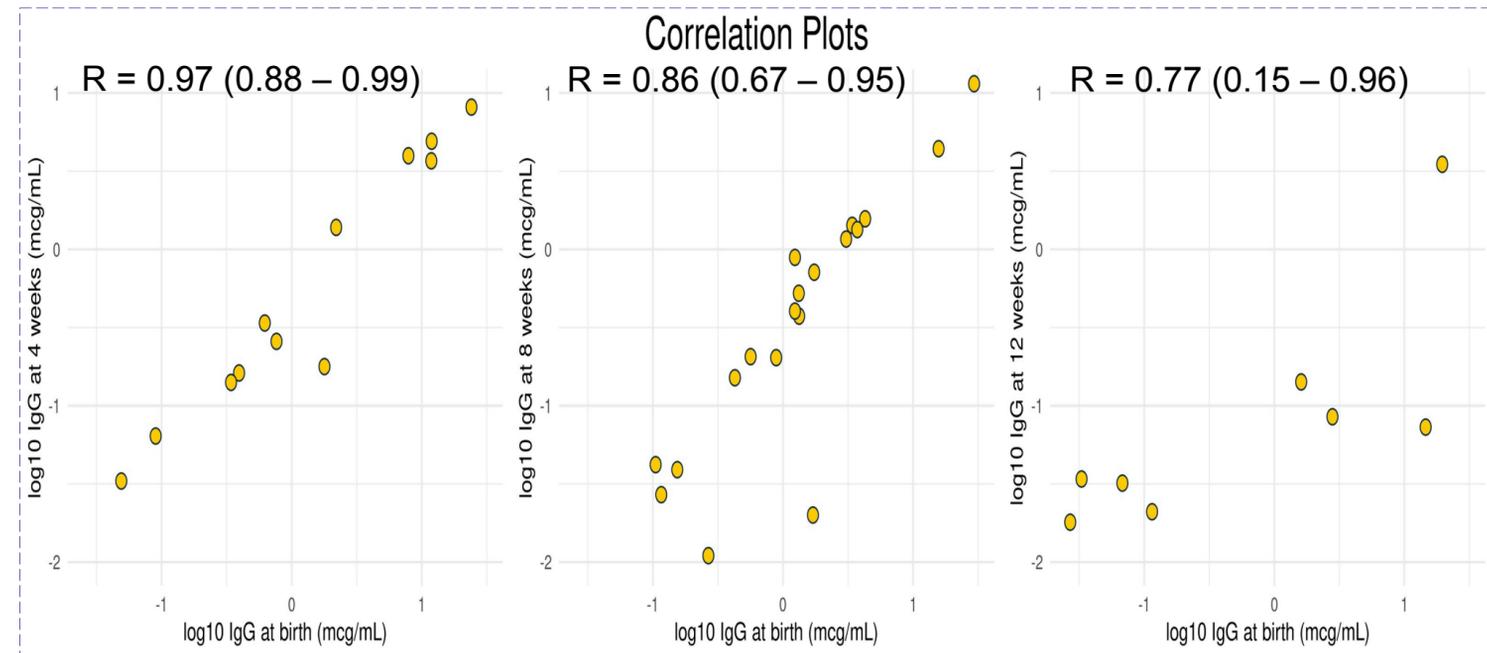
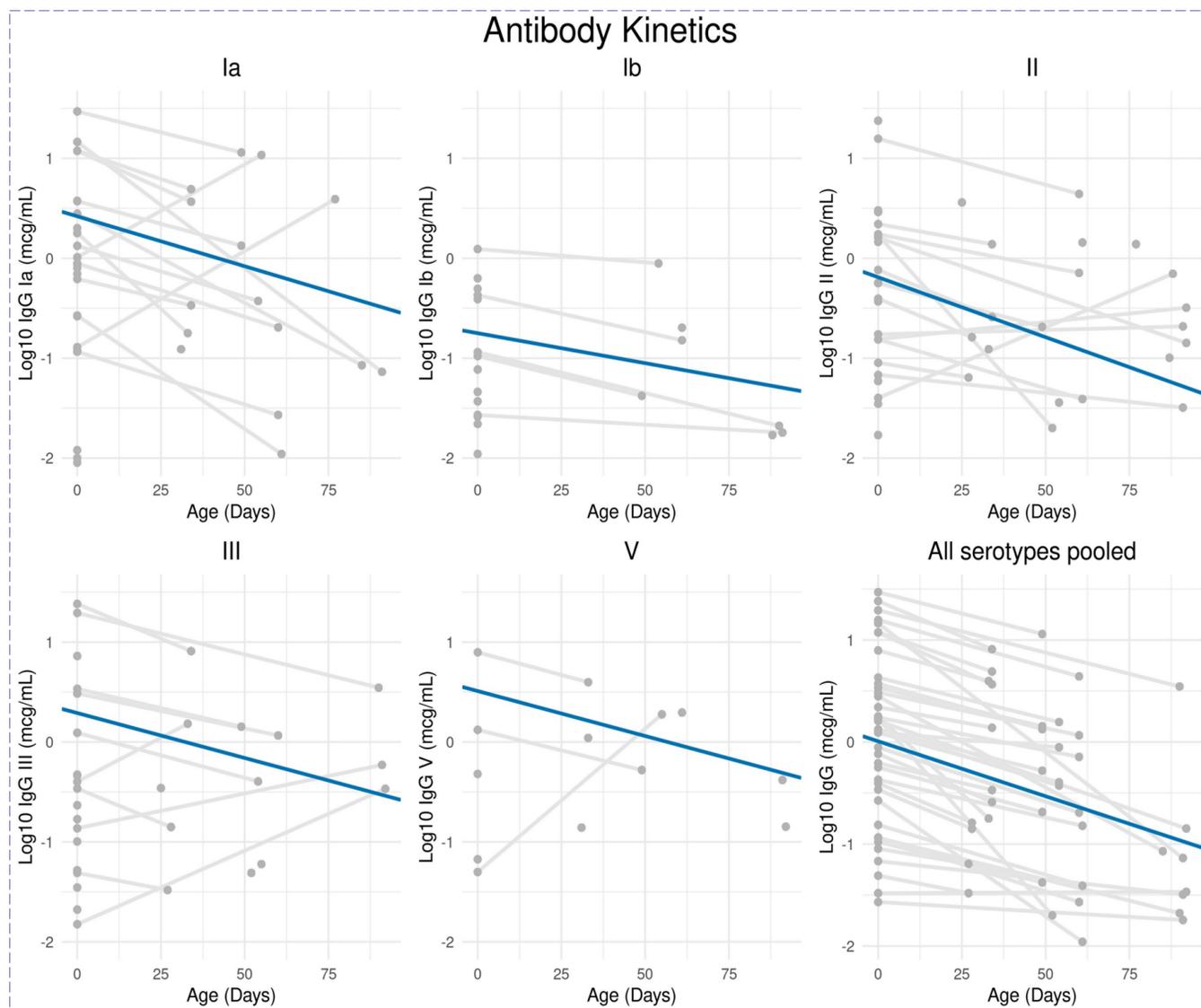
Kinetics of Group B Streptococcus (GBS) capsular polysaccharide (CPS) serotype-specific IgG antibodies between birth and 3 months of life in infants with natural exposure to GBS

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Background and study aims: Capsular polysaccharide (CPS) serotype-specific IgG antibodies in cord blood at delivery have been proposed as a correlate of protection (CoP) against invasive Group B Streptococcus (iGBS) disease. However, protective levels are required in infants throughout the window of vulnerability up to 3 months of age. Relatively little is known regarding the kinetics of GBS-specific IgG in the infant over this period.

Methods: 39 infants born to mothers colonised with GBS that did not develop disease in the first three months of life were enrolled. Cord blood (day 0) and infant blood samples at one (15-44 days), two (45-74 days) or three months of age (75-104 days) were collected. Serotype-specific IgG concentrations were measured using the GASTON multiplex immunoassay. The geometric mean slope with 95% CI was calculated for each serotype, using the slope for each individual. Participants with values below the lower limit of quantitation (LLQ) and those with raised levels of antibodies after birth were excluded from the calculation of the mean slope.



Results: There were 47 paired samples of cord and infant blood with both values above LLQ. When IgG concentrations across all serotypes were pooled together, half-life was found to be 28 (23 - 36) days. IgG concentrations at birth and at 4, 8 and 12 weeks were highly correlated.

Conclusions: Our findings suggest that maternally derived CPS IgG antibodies after natural exposure have a similar half-life to infant antibodies elicited by candidate GBS vaccines.¹