The pertussis antigen most significantly associated with

Background: The pertussis antigen most significantly associated with maternal specific IgG in infants born at term is PT. The recommended strategy to prevent pertussis in infancy is 1 month to 24 months, pregnant women would not receive pertussis vaccine (Tdap) and there are few data on the effect of Tdap booster on placentally transferred maternal specific IgG. Acellular pertussis vaccine (Tdap) is licensed for use during weeks 1 through 36 of pregnancy. The pertussis antigens associated with maternal specific IgG in infants born at term is PT.

Objectives: To determine PT-specific IgG levels in cord blood from infants born to women who received Tdap during weeks 27 through 36 of pregnancy as per CDC recommendations (Tdap+), compared with infants of mothers not immunized (Tdap-).

Methods: To determine PT-specific IgG levels in cord blood from infants born to women who received Tdap during weeks 27 through 36 of pregnancy as per CDC recommendations (Tdap+), compared with infants of mothers not immunized (Tdap-).

Results: Six hundred and twenty six pregnancies were included in the study (312 Tdap+ and 314 Tdap-). More infants in the Tdap+ group had anti-PT antibodies above the lower limit of quantitation of the assay (30.8 IU/ml; 95% C.I. 28.7 to 35.4) compared with infants of mothers not immunized (12.93 IU/ml; 95% C.I. 10.98 to 14.92). Tdap+ mothers were older than Tdap- mothers (30.8 vs 28.7 years; P < 0.001), more likely to be white and less likely to be black (P < 0.001).

Conclusions: Maternal immunization with Tdap during weeks 27 through 36 of pregnancy results in significantly higher PT-specific IgG levels in infants born at term. Although serological correlates of protection in infants are unknown, these levels are likely sufficient to protect infants from pertussis infection through the start of the infant immunization series.

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