protection when challenged with strains that lack the gene encoding the vaccine protein. However, protection was also variable and even absent in some strains when the gene was known to be present. However, using all 4 antigens in combination, the authors demonstrated protection against a panel of 12 challenge strains representing all 9 major pathogenic GBS serotypes ranging from 59% to 100%.

CONCLUSIONS. Multistrain genome analysis and screening represents an effective new approach for the identification of vaccine candidates that single-strain analysis would miss.

REVIEWER COMMENTS. Vaccine strategies taking into account the enormous variability at the genomic and proteomic levels that many pathogens have evolved are the best hedge against a mere “arms race” in which temporary vaccine efficacy gives way to the emergence of antigenic variants. This is a novel application of such a rational strategy. However, the extent of the challenge is underscored by the identification of only 4 targets despite a comprehensive approach. Furthermore, 3 of 4 are not part of the “core” conserved genome and are, therefore, likely to be nonessential. It remains unproven whether targeting of so few surface proteins of an encapsulated organism would prove to be a good long-term strategy. Nevertheless, this approach seems likely to be at least complementary to efforts directed to polysaccharides for encapsulated organisms.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2006-0900

Wayne G. Shreffler, MD, PhD
New York, NY

Passive Immunization During Pregnancy for Congenital Cytomegalovirus Infection


PURPOSE OF THE STUDY. To investigate the effectiveness of cytomegalovirus (CMV)-specific hyperimmune globulin for primary CMV infection during pregnancy as a preventive therapy for fetal CMV infection.

STUDY POPULATION. One hundred fifty-seven pregnant women from 8 Italian cities with a primary CMV infection diagnosed via serologic testing.

METHODS. Women were placed in 1 of 2 groups. The therapy group comprised women who underwent amniocentesis and whose amniotic fluid contained either CMV detected by culture or CMV DNA detected by polymerase chain reaction. The group was offered intravenous CMV-specific hyperimmune globulin at a dose of 200 U per kg of maternal weight. Additional intravenous, intrapartum-cord, or intra-amniotic doses were administered if evidence of persistent fetal involvement was present on ultrasound. Women with CMV-positive amniotic fluid who declined to receive hyperimmune-globulin infusions were followed as a comparison group. Those in the prevention group, consisting of women with a recent primary infection before 21 weeks’ gestation or who declined amniocentesis, were offered monthly hyperimmune globulin (100 U/kg intravenously). Pregnant women who declined monthly administration of hyperimmune globulin were followed as a comparison group.

RESULTS. In the therapy group, 31 women received hyperimmune globulin, only 1 (3%) of whom gave birth to an infant with symptomatic CMV disease, compared with 7 (50%) of 14 women who did not receive hyperimmune globulin. Thus, hyperimmune-globulin therapy was associated with a significantly lower risk of congenital CMV disease (adjusted odds ratio: 0.02; 95% confidence interval: −∞ to 0.15; P < .001). In the prevention group, 37 women received hyperimmune globulin, 6 (16%) of whom had infants with congenital CMV infection, compared with 19 (40%) of 47 women who did not receive hyperimmune globulin. Thus, hyperimmune-globulin therapy was associated with a significantly lower risk of congenital CMV infection (adjusted odds ratio: 0.32; 95% confidence interval: 0.10 to 0.94; P = .04). No adverse effects resulted from CMV-specific hyperimmune-globulin administration.

CONCLUSIONS. Treatment of pregnant women with CMV-specific hyperimmune globulin is safe, and the findings of this nonrandomized study suggest that it may be effective in the treatment and prevention of congenital CMV infection. A controlled trial of this agent may be appropriate.

REVIEWER COMMENTS. The risk of congenital CMV infection is high after primary maternal CMV infection. Although the majority of congenitally acquired CMV infections are asymptomatic, symptomatic infections result in significant morbidity and possible mortality. The implementation of CMV-specific hyperimmune globulin may reduce or prevent the devastating effects of symptomatic congenital CMV.

href="www.pediatrics.org/cgi/doi/10.1542/peds.2006-0900K"

Jennifer M. Maloney, MD
Scott H. Sicherer, MD
New York, NY

Information Leaflet and Antibiotic Prescribing Strategies for Acute Lower Respiratory Tract Infection: A Randomized, Controlled Trial


URL: www.pediatrics.org/cgi/doi/10.1542/peds.2006-0900K

New York, NY
Passive Immunization During Pregnancy for Congenital Cytomegalovirus Infection

Jennifer M. Maloney and Scott H. Sicherer

*Pediatrics* 2006;118;S54

DOI: 10.1542/peds.2006-0900

Updated Information & Services including high resolution figures, can be found at: /content/118/Supplement_1/S54.2

Permissions & Licensing Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: /site/misc/Permissions.xhtml

Reprints Information about ordering reprints can be found online: /site/misc/reprints.xhtml
Passive Immunization During Pregnancy for Congenital Cytomegalovirus Infection

Jennifer M. Maloney and Scott H. Sicherer

*Pediatrics* 2006;118;S54

DOI: 10.1542/peds.2006-0900

The online version of this article, along with updated information and services, is located on the World Wide Web at:

/content/118/Supplement_1/S54.2