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 complimentary to efforts directed to polysaccharides for encapsulated organisms.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2006-0900JJJJ
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, intraumbilical-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 < 0.001). 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 = 0.04). 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.

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

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
PURPOSE OF THE STUDY. Acute lower respiratory tract infection is the most common condition treated in primary care. Many physicians still prescribe antibiotics; however, systematic reviews of the use of antibiotics are small and have diverse conclusions. This study evaluated the effectiveness of 3 prescribing strategies and an information leaflet for acute lower respiratory tract infection.

STUDY POPULATION. A randomized, controlled trial conducted from August 18, 1998, to July 30, 2003, of 807 patients presenting to a primary care setting with acute uncomplicated lower respiratory tract infection. Patients were assigned to 1 of 6 groups by a factorial design: leaflet or no leaflet and 1 of 3 antibiotic groups (immediate antibiotics, no offer of antibiotics, and delayed antibiotics).

METHODS. Three strategies, immediate antibiotics (n = 262), a delayed antibiotic prescription (n = 272), and no offer of antibiotics (n = 273), were prescribed. Approximately half of the patients in each group received an information leaflet (129 for immediate antibiotics, 136 for delayed antibiotic prescription, and 140 for no antibiotics).

RESULTS. A total of 562 patients (70%) returned complete diaries, and 78 (10%) provided information about both symptom duration and severity. Cough rated at least “a slight problem” lasted a mean of 11.7 days (25% of the patients had a cough lasting ≥17 days). An information leaflet had no effect on the main outcomes. Compared with no offer of antibiotics, other strategies did not alter cough duration (delayed prescription, 0.75 days; 95% confidence interval: −0.37–1.88; immediate prescription, 0.11 days; 95% confidence interval: −1.01–1.24) or other primary outcomes. Compared with those in the immediate-antibiotic group, slightly fewer patients in the delayed-prescription and control groups used antibiotics (96%, 20%, and 16%, respectively; P < .001), fewer patients were “very satisfied” (86%, 77%, and 72%, respectively; P = .005), and fewer patients believed in the effectiveness of antibiotics (75%, 40%, and 47%, respectively; P < .001). There were lower reattendances within a month with antibiotics (mean attendances for no antibiotics: 0.19; delayed prescription: 0.12; immediate prescription: 0.11; P = .04) and higher attendance with a leaflet (mean attendances for no leaflet: 0.11; mean attendances for leaflet: 0.17; P = .02).

CONCLUSIONS. No offer or a delayed offer of antibiotics for acute uncomplicated lower respiratory tract infection is acceptable, associated with little difference in symptom resolution, and is likely to considerably reduce antibiotic use and beliefs in the effectiveness of antibiotics.

REVIEWER COMMENTS. This is good that we do not need yet another patient-information leaflet. I have always liked the “delayed-offer” approach, because it is a compromise to the patient, and most of the time they get better and never need the drug.

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

Allen Adinoff, MD
Denver, CO
Information Leaflet and Antibiotic Prescribing Strategies for Acute Lower Respiratory Tract Infection: A Randomized, Controlled Trial

Allen Adinoff

*Pediatrics* 2006;118:S54

DOI: 10.1542/peds.2006-0900

<table>
<thead>
<tr>
<th>Updated Information &amp; Services</th>
<th>including high resolution figures, can be found at: /content/118/Supplement_1/S54.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permissions &amp; Licensing</td>
<td>Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: /site/misc/Permissions.xhtml</td>
</tr>
<tr>
<td>Reprints</td>
<td>Information about ordering reprints can be found online: /site/misc/reprints.xhtml</td>
</tr>
</tbody>
</table>
Information Leaflet and Antibiotic Prescribing Strategies for Acute Lower Respiratory Tract Infection: A Randomized, Controlled Trial

Allen Adinoff

*Pediatrics* 2006;118;S54
DOI: 10.1542/peds.2006-0900LLL

The online version of this article, along with updated information and services, is located on the World Wide Web at:
/content/118/Supplement_1/S54.1