Neither maternal antiretroviral therapy nor postnatal prophylaxis affected PCR results at <7 days and at 3 months of age. It is important to note that these mothers were undergoing regimens that were not fully suppressive, and 50 of the 65 patients were not receiving highly active antiretroviral therapy consisting of at least 3 drugs. DNA PCR and RNA PCR resulted in equal sensitivity. DNA PCR was associated with 2 false-positive results at 3 and 4 days of age. The positive predictive value at <7 days of age was 100% for HIV RNA PCR and 78% for DNA PCR; at 1 month of age, both tests had positive predictive values of 100%. Negative predictive values for both tests were 99.5% at <7 days, 99.8% at 1 month, and 100% at 3 months of age.

CONCLUSIONS. Both HIV DNA PCR and HIV RNA PCR resulted in similar sensitivities and specificities at 1 and 3 months of age. Importantly, 11% of infected children had negative PCR results at age 1 month regardless of assay used.

REVIEWER COMMENTS. Both assays seem to be equally effective in identifying HIV infection in infants exposed perinatally to HIV. In general, reference laboratories are more familiar with RNA PCR. This situation would be the primary justification for use of RNA PCR in the community.

Cost-Effectiveness of Oseltamivir Treatment for Children With Uncomplicated Seasonal Influenza

PURPOSE OF THE STUDY. To evaluate the cost-effectiveness of oseltamivir treatment for seasonal influenza in children and consider the impact of oseltamivir resistance on these findings.

STUDY POPULATION. Unvaccinated children, stratified according to age groups (12–23 months, 2 years, 3–4 years, 5–11 years, and 12–17 years) visiting a physician’s office with age-appropriate symptoms of uncomplicated influenza-like illness.

METHODS. The investigators developed a model to evaluate 1-year clinical and economic outcomes associated with 3 outpatient management strategies for unvaccinated children with influenza-like illness: no antiviral treatment; diagnostic testing and oseltamivir treatment when results were positive; and empiric oseltamivir treatment. The model depicted a hypothetical nonpandemic influenza season with a 29% level of oseltamivir resistance in circulating viruses and 14% to 54% probability of seasonal influenza with influenza-like illness. Strategies were compared by using incremental cost-effectiveness ratios.

RESULTS. In the preliminary analysis, empiric oseltamivir treatment consistently produced the greatest benefit. The incremental cost-effectiveness of this alternative, compared with testing and treating, was <$100,000 per quality-adjusted life-year gained in all age groups except the oldest. The testing strategy was consistently more effective compared with no treatment, and it costs between $25,900 and $71,200 per quality-adjusted life-year gained, depending on age. Results were sensitive to the prevalence of oseltamivir resistance in circulating viruses.

CONCLUSIONS. Empiric oseltamivir treatment of seasonal influenza is associated with favorable cost-effectiveness ratios, particularly in children aged 1 to <12 years. However, ratios are highly dependent on the prevalence of oseltamivir resistance among circulating influenza viruses.

REVIEWER COMMENTS. What a breath of fresh air to find this very interesting and clinically relevant article that examined a cost-effective analysis which deals with how to best manage children presenting for medical attention with influenza-like illness. Despite the availability of rapid diagnostic testing, which is not always the most sensitive or specific, relying on clinical diagnosis and being aware of the level of oseltamivir resistance of circulating influenza viruses seems to be the ideal approach here. What a novel concept: relying on one’s clinical diagnostic skills to deal with these types of patients.

Treatment of Neonatal Sepsis With Intravenous Immune Globulin

PURPOSE OF THE STUDY. Neonatal sepsis is a major cause of death and complications despite antibiotic treatment. Effective adjunctive treatments are needed. Newborn infants are relatively deficient in endogenous immunoglobulin. Meta-analyses of trials of intravenous immunoglobulin for suspected or proven neonatal sepsis suggest a reduced rate of death from any cause, but the trials have been small and of varied quality.

STUDY POPULATION. At 113 hospitals in 9 countries, 3493 infants receiving antibiotics for suspected or proven serious infection were enrolled.

METHODS. Participants were randomly assigned to receive 2 infusions of either polyvalent immunoglobulin G (at
a dose of 500 mg/kg of body weight) or placebo 48 hours apart. The primary outcome was death or major disability at age 2 years.

RESULTS. There was no significant between-group difference in the rates of the primary outcome, which occurred in 686 of 1759 infants (39.0%) who received intravenous immunoglobulin and in 677 of 1734 infants (39.0%) who received placebo (relative risk: 1.00 [95% confidence interval: 0.92–1.08]). Similarly, there were no significant differences in the rates of secondary outcomes, including the incidence of subsequent sepsis episodes. In the follow-up of 2-year-old infants, there were no significant differences in the rates of disability or of adverse events.

CONCLUSIONS. Therapy with intravenous immunoglobulin had no effect on the outcomes of suspected or proven neonatal sepsis.

REVIEWER COMMENTS. This study should put to rest the question of whether antibody supplementation via serum immunoglobulin is useful in treating neonatal sepsis. This double-blind control study in a large group of neonates clearly demonstrated that this treatment is not an effective adjunctive therapy when added to antibiotic therapy.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2012-2183

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Treatment of Neonatal Sepsis With Intravenous Immune Globulin
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Pediatrics 2012;130;S54
DOI: 10.1542/peds.2012-2183MMM

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Treatment of Neonatal Sepsis With Intravenous Immune Globulin
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Pediatrics 2012;130;S54
DOI: 10.1542/peds.2012-2183MMM

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