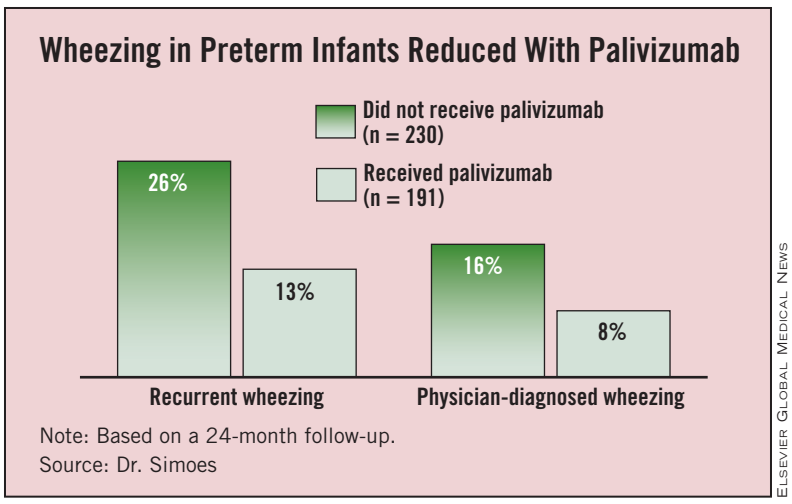

Note: Based on a 24-month follow-up.
Source: Dr. Simoes

Palivizumab Prophylaxis Cuts Later Wheezing in Preemies

BY DIANA MAHONEY
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Palivizumab prophylaxis against respiratory syncytial virus in premature infants without chronic lung disease significantly reduces the incidence and severity of recurrent wheezing, compared with preterm infants not on the preventive therapy, according to a study by Dr. Eric A.F. Simoes of the University of Colorado, Denver, and his colleagues.

Serious RSV infections in the first year of life among preterm infants are associated with an increased risk for developing recurrent wheezing or asthma, as well as persistent abnormal lung function. Because it has been demonstrated in large clinical trials that treatment with palivizumab—a humanized, anti-RSV monoclonal antibody—significantly reduces hospitalization for severe RSV lower respiratory tract infections (LRTI), the authors sought to determine whether preventive treatment with the drug in preterm infants could have an impact on subsequent recurrent wheezing and lung function.

Toward this end, they conducted a prospective investigation of the respiratory outcomes of a retrospectively selected study population of 421 preterm infants, including 191 who had received palivizumab and 230 who did not. None of the infants in the treated group had a prior history of hospitalization for RSV-induced LRTI, while 76 of the untreated group had been hospitalized previously for this condition. Starting at a mean age of 19 months, the children were observed for 24 months for episodes of recurrent wheezing and physician-diagnosed recurrent wheezing, Dr. Simoes and his colleagues reported (J. Pediatr. 2007; 151:34-42).

Recurrent wheezing and physician-diagnosed recurrent wheezing were observed in 13% and 8% of the treated infants, respectively, compared with 26% and 16% of the untreated infants. The significant difference remained so after adjusting for potential confounding variables, including baseline RSV-neutralizing antibody titers, family history of asthma, gestational age at birth, birth weight, the number of adults and siblings in the home, and the presence of a wood-burning stove in the home, the authors reported.

Dr. Simoes and his associates also compared the respiratory outcomes of the treated cohort with those of the 154 infants in the untreated cohort who were not previously hospitalized for RSV LRTI; they observed significant relative reductions in both recurrent wheezing and physician-diagnosed recurrent wheezing episodes. This finding suggests that the protective effect of the prophylaxis is related to the drug's efficacy at preventing RSV-induced LRTIs "not just by preventing hospitalization," they said.

The results of the study are not generalizable to term infants, as the mechanisms leading to recurrent wheezing differ between preterm and term infants. As such, Dr. Simoes and his associates stressed "our findings do not support widespread use of palivizumab."

In an accompanying editorial, Dr. H. Cody Meissner of Tufts–New England Medical Center in Boston, noted that the findings, if reproducible, "support the theory that avoidance of early RSV infection can reduce the risk of long-term pulmonary complications [in premature infants without chronic lung disease]" (J. Pediatr. 2007;151:6-7). ■

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