

Palivizumab cuts number of days of wheezing in preemies

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For preterm infants, administration of the monoclonal antibody palivizumab for prevention of respiratory syncytial virus infection is associated with a significant reduction in the number of days of wheezing during the first year of life, according to a study published in the May 9 issue of the *New England Journal of Medicine*.

(HealthDay)—Many pre-term babies suffer recurrent episodes of wheezing. Now, researchers say a common infection is a likely culprit and they may be able to prevent the breathing problems.

Wheezing episodes in late pre-term babies often are caused by infection with the respiratory syncytial virus (RSV), the researchers said. And they've found that injections of an expensive RSV medication can prevent the virus—and the wheezing.

A study of more than 400 babies born late pre-term (between 33 and 35 weeks' gestation) found that days with wheezing dropped by more than

60 percent among those who received injections of palivizumab during RSV season. The effect lasted even after treatment ended.

"In pre-term babies, RSV illnesses seem to be a risk factor for wheezing, and this treatment reduced that risk," said Dr. Robert Lemanske Jr., a professor of pediatrics and medicine at the University of Wisconsin School of Medicine and Public Health, in Madison. Lemanske wrote an editorial accompanying the new study, which was published May 9 in the *New England Journal of Medicine*.

RSV is a global health threat in the first year of life and the second leading cause of death after malaria, said study lead author Dr. Louis Bont, a pediatric infectious disease specialist at the University Medical Center Utrecht in the Netherlands.

"The risk of hospitalization for RSV bronchiolitis in otherwise healthy late pre-term [babies] is 5 percent," Bont said. "For other pre-terms, it is higher. About half of all otherwise healthy late pre-terms develop wheezing illness."

RSV-related wheezing reduces quality of life, and it has been linked to the development of asthma, Bont said. It's not yet clear if using palivizumab to prevent RSV will lower rates of asthma, he added.

RSV season lasts about four to five months during the fall, winter or spring, but the exact timing in the United States varies by region, according to the U.S. Centers for Disease Control and Prevention. There is no vaccine for the virus, which causes only mild symptoms in adults and older children.

The study was funded by Abbott Laboratories and the Netherlands Organization for Health Research and Development. Abbott markets palivizumab in some foreign countries.

The researchers set out to determine if RSV was the cause of wheezing illness during the first year of life. Studying 429 babies in the Netherlands, they randomly assigned half to receive a monthly injection of palivizumab during RSV season. The other half received a placebo drug.

The babies in the treatment group had 61 percent fewer days of wheezing during the first year of life. This led the researchers to conclude that RSV is a likely contributor to wheezing illness in this group of children.

The study also found that 21 percent of the babies who received no treatment had recurrent wheezing, compared to 11 percent in those receiving palivizumab. The number of infants who needed medication to treat their wheezing was also less in the palivizumab group, according to the study.

Other than redness and swelling at the injection site, the drug is very well tolerated, Bont said.

The reduction in wheezing comes at a price, however. A season's treatment would likely reach about \$10,000 in the United States, Bont said, adding that cost varies from country to country. A child's weight, which determines dosage, also affects the cost of treatment.

"Society needs to define whether its cost-effectiveness is acceptable," Bont said. He said palivizumab should be a standard preventive treatment for premature infants during RSV season.

Lemanske agreed that this is a very expensive intervention. "But if wheezing episodes in pre-term infants are associated with significant [illnesses], then preventing RSV could translate into dollars and cents too," he said. "Whether this will reduce disease risk down the road

remains to be seen."

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