ORIGINAL ARTICLE

One-year observational study of palivizumab prophylaxis on infants at risk for respiratory syncytial virus infection in Latin America

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KEYWORDS
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Abstract
Objective: This study aims to describe real world palivizumab use and effectiveness in high-risk Latin American infants and young children.
Method: Prospective, multicenter observational study with infants at risk for severe RSV infection who received palivizumab according to routine clinical practice. Subjects were followed for one year with monthly visits after the first dose of palivizumab. An infant was considered adherent if receiving all the expected injections or five or fewer injections within appropriate inter-dose intervals. Annual incidence rates and risk factors of lower respiratory tract infection (LRTI) hospitalization were determined through Poisson regression models (α = 0.05).
Results: The study enrolled 458 children from seven countries in Latin America, from February 2011 to September 2012. The majority (98%) were born <36 weeks gestation. Overall, patients received 83.7% of their expected injections and 86.7% completed one year of follow-up. Of the 61 LRTI hospitalizations, 12 episodes were due to RSV infection. The RSV-associated hospitalization rate was 2.9 per 100 patient-years. Bronchopulmonary dysplasia was identified as an


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Introduction

Lower respiratory tract infections (LRTIs) are a leading cause of acute illnesses and mortality in infants and children <5 years of age, accounting for approximately 1.4 million deaths in 2010 worldwide. Respiratory syncytial virus (RSV) is the most frequent etiology of severe respiratory illness, such as bronchiolitis and/or pneumonia. One meta-analysis estimated that at least 33.8 million episodes of LRTI and 66,000–199,000 deaths in children <5 years of age were caused by RSV infection in 2005. Nearly 99% of RSV deaths occurred in developing countries, where the incidence of RSV-associated LRTI seems to be more than twice that observed in industrialized countries.

In Latin America, a recent meta-analysis estimated a 41.5% (95% CI, 32.0–41.4) prevalence of RSV in infants aged 0–11 months, and that RSV was responsible for 36.5% (95% CI, 28.5–44.9) of hospital admissions due to LRTI among infants aged 0–11 months. Moreover, a prospective epidemiological cohort of patients aged <18 years hospitalized due to LRTIs from 2000 to 2013 in Buenos Aires registered a RSV associated fatality rate of 1.9% (74 deaths/3888 cases). Although these estimates may imply an urgency for health-related interventions, more studies are needed to quantify the disease burden due to RSV and risk factors associated to LRTI hospitalizations in Latin American countries.

Several host- and social-related factors have been associated with an increased risk of RSV infection, namely age <6 months at the beginning of the RSV season, male sex, multiple birth, household crowding, low socioeconomic status, and parental education, daycare attendance, exposure to indoor tobacco smoke, and abbreviated breastfeeding. In addition, some clinical conditions are associated with severe RSV disease and hospitalization, including prematurity (infants born at ≤35 weeks of gestational age).
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