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Title **Cost Effectiveness of Palivizumab in the Prevention of Hospital Admissions for Syncytial Respiratory Virus in Pre-Term Babies Born at 32 to 35 Weeks**

Agency **AETSA, Andalusian Agency for Health Technology Assessment**
Av. Innovación s/n. Edificio Arena 1, 41071 Seville, Spain; Tel: +34 955 006 204, Fax: +34 955 006 677;
josea.navarro.sspa@juntadeandalucia.es, www.juntadeandalucia.es/salud/orgdep/aetsa/

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Aim

To determine whether the use of palivizumab is cost effective in preventing hospitalization, morbidity, and mortality due to syncytial respiratory virus (SRV) infection in premature infants born at 32 to 35 weeks gestational age.

Conclusions and results

Results: Of the 416 articles retrieved in the search, only 2 meeting the inclusion criteria were selected, namely, a controlled clinical trial and a cohort study, both with sound internal validity. Only 1 of the studies records the number of deaths, although these were unrelated to palivizumab. Both studies measure the frequency of hospitalization and length of stay for SRV-induced respiratory infection, although only the cohort study provides data on absolute risk reduction specifically for the premature population born at 32 to 25 weeks. According to this study, the absolute risk reduction for SRV-induced hospitalization is 3.9% (2.7% intervention group vs 6.6% control group). The estimate of cost effectiveness of administering palivizumab in pre-term babies born at 32 to 25 weeks of pregnancy ranges between 42 761 and 68 104 euros (EUR) per admission avoided (the first figure according to the sensitivity testing performed). The impact on the annual budget in Andalusia would amount to between EUR 2 693 931 and EUR 2 860 367.

Conclusions: In the population of 32- to 35-week gestational age infants, palivizumab is effective as prophylaxis for SRV infection, but it is not cost effective.

Methods

A systematic review of the literature was performed, running database searches in MEDLINE, EMBASE, Cochrane Library (the Cochrane Database of Systematic Reviews and Controlled Trials Register), and CRD (Centre for Reviews and Dissemination). The Registry of the Andalusian Regional Clinical Trials Committee and related webpages were also consulted. The inclusion criteria for the articles were as follows: design (controlled clinical trials or observational studies with a control group), the population characteristics (pre-term babies born at 32 to 25 weeks gestational age), the intervention (preventive use of palivizumab), and outcomes (rates of hospitalization due to SRV infection and related morbidity and mortality indicators, and costs based on the original populations). The studies were assessed using the Jadad and CASP scales for clinical trials and a list of criteria devised ad hoc for cohort studies. The summary of outcomes is qualitative. Both a cost-effectiveness study and an assessment of the budgetary impact of the prophylactic use of palivizumab in the population of pre-term babies born at 32 to 25 weeks in Andalusia were also performed. A sensitivity study was conducted within our economic assessment using a greater reduction in the risk of hospitalization with palivizumab, a longer mean hospital stay due to SRV, and a higher cost per day of hospitalization than in the original economic analysis.

Written by Leda Ojeda Florido, AETSA, Spain

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