Clinical and economic effects of iNO in premature newborns with respiratory failure at 1 year.

published by Anonymous (not verified) on Tue, 10/08/2013 - 10:39am

Title: Clinical and economic effects of iNO in premature newborns with respiratory failure at 1 year.

Publication Type: Journal Article

Year of Publication: 2009

Authors: R Watson, S Clermont, G Kinsella, JP Kong, L Arendt, RE Cutter, G Linde-Zwirble, WT, Abman, SH, Angus, DC

Corporate Authors: Prolonged Outcomes After Nitric Oxide Investigators

Journal: Pediatrics

Volume: 124

Issue: 5

Pagination: 1333-43

Date Published: 2009 Nov

ISSN: 1098-4275

Keywords: Administration, Inhalation, Bronchodilator Agents, Cost-Benefit Analysis, Costs and Cost Analysis, Developmental Disabilities, Follow-Up Studies, Humans, Infant, Infant, Newborn, Infant, Premature, Infant, Premature, Diseases, Neurologic Examination, Nitric Oxide, Quality of Life, Respiration, Artificial, Respiratory Insufficiency, Survival Analysis, Survival Rate

Abstract:

BACKGROUND: The long-term consequences of inhaled nitric oxide (iNO) use in premature newborns with respiratory failure are unknown. We therefore studied the clinical and economic outcomes to 1 year of corrected age after a randomized controlled trial of prophylactic iNO.

METHODS: Premature newborns (gestational age

RESULTS: At 1 y corrected age, survival was not different by treatment arm (79.2% iNO vs. 74.5% placebo, P = .12), nor were other post-discharge outcomes. For subjects weighing 750-999 g, those receiving iNO had greater survival free from neurodevelopmental impairment (67.9% vs. 55.6%, P = .04). However, in subjects weighing 500-749 g, iNO led to greater oxygen dependency (11.7% vs. 4.0%, P = .04). Median total costs were similar ($235,800 iNO vs. $198,300 placebo, P = .19). Quality-adjusted survival was marginally better with iNO (by 0.011 quality-adjusted life-years/subject). The incremental cost-effectiveness ratio was $2.25 million/quality-adjusted life-year.

CONCLUSIONS: Subjects in both arms commonly experienced neurodevelopmental and pulmonary morbidity, consuming substantial
health care resources. Prophylactic iNO beginning in the first days of life did not lower costs and had a poor cost-effectiveness profile.

DOI 10.1542/peds.2009-0114
Alternate Journal Pediatrics
PubMed ID 19841128
Grant List R01 HL69991 / HL / NHLBI NIH HHS / United States
U01 HL064857 / HL / NHLBI NIH HHS / United States