Randomized Controlled Trial > Chest. 2017 Jul;152(1):113-119. doi: 10.1016/j.chest.2017.03.002. Epub 2017 Mar 9.

IV Magnesium Sulfate for Bronchiolitis: A Randomized Trial

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Abstract

Background: The goal of this study was to determine if IV magnesium, useful for severe pediatric asthma, reduces time to medical readiness for discharge in patients with bronchiolitis when added to supportive care.

Methods: We compared a single dose of 100 mg/kg of IV magnesium sulfate vs placebo for acute bronchiolitis. Patients received bronchodilator therapy, nebulized hypertonic saline, and 5 days of dexamethasone if there was eczema and/or a family history of asthma. Time to medical readiness for discharge was the primary efficacy outcome. Bronchiolitis severity scores and need for infirmary or hospital admission and for clinic revisits within 2 weeks were secondary outcomes. Cardiorespiratory instability onset was the safety outcome.

Results: A total of 162 previously healthy infants diagnosed with bronchiolitis aged 22 days to 17.6 months (median, 3.7 months) were enrolled. Approximately one-half of patients had eczema and/or a family history of asthma; 86.4% had positive findings on nasopharyngeal virus swabs. Geometric mean time until medical readiness for discharge was 24.1 h (95% CI, 20.0-29.1) for the 78 magnesium-treated patients and 25.3 h (95% CI, 20.3-31.5) for the 82 patients receiving placebo (ratio, 0.95 [95% CI, 0.52-1.80]; P = .91). Mean bronchiolitis severity scores over time were similar for the two groups. The frequency of clinic visits in the subsequent 2 weeks (33.8% and 27.2%, respectively) was also

similar. Fifteen magnesium recipients (19.5%) vs five placebo recipients (6.2%) were readmitted to the infirmary or hospital within 2 weeks (P = .016). No acute cardiorespiratory side effects were reported.

Conclusions: IV magnesium did not provide benefit for patients with acute bronchiolitis and may be harmful.

Trial registry: ClinicalTrials.gov; No.: NCT02145520; URL: www.clinicaltrials.gov.

Keywords: bronchiolitis; length of stay; magnesium sulfate; respiratory infections; respiratory syncytial virus.

Figures

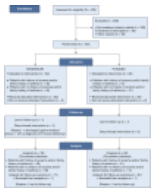

Figure 1 5 Study flowchart of enrolled patients.

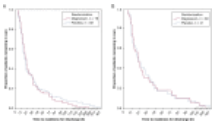

Figure 2 5 A, Bronchiolitis discharge for all...

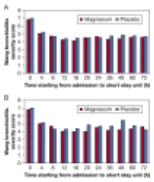

Figure 3 5 A, Mean bronchiolitis severity score...

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Angurana SK, Kumar P. Angurana SK, et al. Chest. 2017 Nov;152(5):1093-1094. doi: 10.1016/j.chest.2017.08.1165. Chest. 2017. PMID: 29126527 No abstract available.

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