



Efficacy of Nebulised Salbutamol with Ipratropium Bromide in Magnesium Sulphate Base in Acute Flare-up of Wheeze among Children Aged 1-12 y

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To the Editor: Asthma, a prime public health respiratory illness, alters the quality of life [1]. Studies addressing role of nebulised MgSO₄ are heterogeneous; results are inconsistent for a strong recommendation of MgSO₄ as an adjunct to standard care in asthma flare-up. This study was designed to evaluate efficacy of nebulised salbutamol with ipratropium bromide in magnesium sulphate base in acute flare-up of wheeze in children. The study was done after ethical committee's approval and an informed consent was obtained. Children (1-12 y) with acute flare-up of wheeze with or without fever, were randomized to receive either nebulized salbutamol with ipratropium bromide in isotonic magnesium sulphate base (Study group) or nebulized salbutamol with ipratropium bromide in normal saline base (Control group). Baseline parameters, Pediatric Respiratory Assessment Measure (PRAM) score and mean PRAM score, pre and post-nebulization were compared ($p < 0.05$; statistically significant). Among 100 children, 52 were in the study group and 48 in the control group. Baseline characteristics were comparable. Mild and moderate respiratory distress in the study group, [14 (27%) and 38 (73%) respectively], was comparable to that of the control group [16 (34%) and 32 (66%) respectively ($p > 0.05$)]. Mean (SD) PRAM score before nebulization among groups was also comparable

[5.19 (0.90) vs. 5.22 (1.07) ($p > 0.05$)]. In the study group, after nebulization, none had moderate severity, whereas 4 (8%) remained with moderate severity in controls ($p < 0.05$). Significantly lower post nebulization mean (SD) PRAM score was found among the study group [2.51 (1.01)] as compared to controls [2.97 (1.17)], ($p < 0.05$). Decrease in severity of respiratory distress after nebulisation in MgSO₄ group is similar to MAGNETIC trial [2], a multicentre randomised placebo-controlled trial to assess clinical benefit by adding nebulised MgSO₄ to standard inhaled therapy. Salbutamol nebulization in isotonic magnesium sulphate base results in significantly higher improvement in asthma severity scoring. With the ease of availability/low cost/ not requiring special apparatus to deliver, this can be used in acute flare-up of under 5 wheezers. PRAM score would be ideal where objective improvement [Peak expiratory flow rate (PEFR), spirometry] in respiratory distress severity could not be assessed in children < 5 y.

Declarations

Conflict of Interest None.

References

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