

Objective:

To evaluate the evidence for the efficacy of inhaled corticosteroids (ICSs) in addition to SCs compared to SCs alone in children with acute asthma in the emergency department (ED) or during hospitalization.

Study Selection:

All RCTs that compared ICS (via nebulizer or metered dose inhaler) plus SC (oral or parenteral) with placebo (or standard care) plus SC were included without language restriction.

Data Extraction:

Two reviewers independently reviewed all the studies. The primary outcomes were hospital admission and hospital length of stay (LOS), and secondary outcomes were readmissions during follow-up, ED-LOS, lung function, asthma clinical score, oxygen saturation, and heart and respiratory rates.

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



NEBULIZED STEROIDS: IS IT NEEDED IN ACUTE ASTHMA?

Adding nebulized corticosteroids to systemic corticosteroids for acute asthma in children: A systematic review with meta-analysis. *Pediatric Pulmonology* 2020.

Results:

Nine studies (n = 1473) met the inclusion criteria. In all the studies, the ICS was budesonide. Compared to SC alone, adding budesonide to SC did not affect hospitalization rate, but decreased hospital LOS by more than 1 day. Moreover, adding budesonide significantly improved the acute asthma severity score among patients at ED.

Conclusion:

Compared to SC alone, adding budesonide to SC does not affect the hospitalization rate, but decreases the LOS and improves the acute asthma score in children in an ED setting.

Highlight of this Paper:

The strength of this study is that it includes nine RCTs exclusively carried out in a population of children, most of them with high-quality methodology, from seven different countries around the world involving more than 1400 patients with asthma.

EXPERT COMMENT



"Nebulized steroids improve the asthma severity scores in ED and decrease length of stay in hospital"

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Reference

Reference : Jose A. Castro-Rodriguez, Mauricio A. Pincheira, Diana P. Escobar-Serna, Monica P. Sossa-Briceño, Carlos E. Rodriguez-Martinez. Adding nebulized corticosteroids to systemic corticosteroids for acute asthma in children: A systematic review with meta-analysis. *Pediatric Pulmonology*. 2020. <https://doi.org/10.1002/ppul.24956>