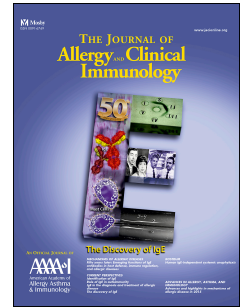


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Oral corticosteroids in preschool children with severe episodes of virus-associated wheeze: to treat or not to treat?

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1 **Clinical Preview**

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17  
18 Acute episodic wheeze is a common clinical scenario during the preschool years, usually related  
19 to an infectious process. Traditionally, more severe episodes have been treated with oral  
20 corticosteroids (OCS), largely based on their demonstrated efficacy in acute asthma  
21 exacerbations among older children and adults. Despite their widespread use, most clinical  
22 trials that investigated OCS efficacy for acute episodic viral wheeze in the preschool population  
23 have failed to detect consistent beneficial effects<sup>1</sup>. The exact explanation for this difference in  
24 response between preschool children and older children remains uncertain, but may be related  
25 to different patterns baseline of airway inflammation (i.e., neutrophilic vs. eosinophilic  
26 inflammation) which have differential susceptibilities to corticosteroid effects<sup>2</sup>.

27  
28 In the February 2018 issue of *Lancet Respiratory Medicine*, Foster and colleagues present the  
29 results of a randomized, double blind, placebo controlled, clinical trial, performed in Australia,  
30 investigating the utility of a 3 day course of oral prednisolone (1 mg/kg/day) compared to  
31 placebo among preschool children presenting for emergency department care with acute viral-  
32 associated wheeze<sup>3</sup>. The overall conclusion was that children treated with prednisolone  
33 experienced significantly shorter durations of hospital stay until they were ready for discharge.

34  
35 Eligible patients were children aged 24–72 months presenting to the pediatric emergency  
36 department with a clinical diagnosis of wheeze and symptoms or signs of a viral upper  
37 respiratory tract infection. Exclusion of children below 24 months of age appropriately  
38 precluded the participation of children with viral bronchiolitis, a clinical syndrome unresponsive  
39 to systemic corticosteroids. Children with other significant medical history or prematurity (<34  
40 weeks gestational age) were excluded. After assessing 3727 patients for eligibility, 624 were  
41 randomized, and 605 patients were included in the modified intention-to-treat analysis that  
42 was sequentially designed to first examine the hypothesis that placebo was non-inferior to  
43 prednisolone. Once this hypothesis was rejected (i.e., placebo was indeed inferior to  
44 prednisolone in term of length of stay), a *post hoc* superiority analysis confirmed the hypothesis

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