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Small-particle inhaled corticosteroids in children with asthma

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Abstract

Inhaled corticosteroids are considered the cornerstone of contemporary pharmaceutical anti-asthma management of children. Small-particle inhaled corticosteroids have recently been introduced for treatment of children. Two such modulations are beclomethasone dipropionate and ciclesonide. A major advantage of small-particle ICS is that they have improved intrapulmonary deposition rates. Therefore, effective asthma control may be achieved at lower daily doses than with the large-particle inhaled corticosteroids. Recent efficacy studies have shown significant results of small-particle ICS on asthmatic inflammation in the small airways. When it comes to safety profiles, however, growth studies and most HPA studies do not support improved safety on the basis of particle size alone and some studies have suggested even higher systemic bioavailability and safety risk with smaller particles, depending on the molecule, the formulation and the applied device. Short term *knemometry* studies of beclomethasone dipropionate have evaluated various formulations and combinations with long-acting beta-2 agonists in school age children. Further efficacy and safety studies are needed, however, to assess efficacy and possible systemic adverse effects of small-particle ICS for mono and combination therapies, particularly in the long-term management of children in whom large-particle ICS have not been efficacious, and in pre-school age children, in whom airway delivery is difficult with current formulations.

Biography

Ole D. Wolthers is a consultant paediatrician at Children´s Clinic Randers and an honorary assistant professor at Institute for Clinical Medicine, Aarhus University. He specialised in Paediatrics in 1993. During 1993-97 he trained at various Danish and British hospitals to acquire subspeciality expertise in paediatric allergology and endocrinology. Principal research area is systemic effects of exogenous steroids. He completed his thesis on *knemometry* in 1996. He has published more than 100 peer review papers and several books. He is a member of various scientific societies and advisory boards and he is a regional editor and a co-editor of scientific journals.

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