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EDITORIAL

Inhaled steroids for young children with recurrent wheezing: friend or foe?

Wheezing and cough are common respiratory symptoms in children and may be the clinical expression of several localised problems of the respiratory tract. The incidence of wheezing is high during the first year of life, mainly in developing countries, reaching up to 80% in a cohort of infants living in a poor urban region[1]. A recent study which used a standard written questionnaire showed that almost 50% of unselected 1-year-old children interviewed during routine clinical evaluation have experienced at least one episode of wheezing and half of them have had three or more episodes; they were defined as recurrent wheezers[2].

Recurrent wheezing (RW) is reported to be associated with an increase in nocturnal respiratory symptoms, visits to emergency department, severity of symptoms and hospitalisations for respiratory distress. Furthermore, population-based birth cohort studies have demonstrated that infants with RW have higher risk of developing persistent asthma later in childhood or in adolescence, and those who were atopic are particularly more likely to continue wheezing[3,4].

During the first two years of life the diagnosis of asthma is not an easy task. Frequently, it is possible only through long-term follow-up, consideration of the extensive differential diagnosis and by observing the child's response to bronchodilator and/or anti-inflammatory treatment[5]. Nevertheless, it has been proposed that children with RW must be considered as having asthma, and anti-inflammatory treatment be promptly initiated[5,6].

Inhaled corticosteroids (ICS) are pointed out as the first line treatment for children with persistent asthma. Nevertheless, the treatment with ICS for children with RW is still controversial. They are recommended for those with persistent/severe symptoms[6]. The main reasons for using these agents are to decrease or remit airway inflammation and to prevent the development of irreversible airway obstruction, inducing a possible potential disease-modifying effect[6].

Clinical effects of ICS are variable according to the drug studied. They depend on the amount of drug that reaches the lungs and also on the inhalation technique, the type of inhaler used, the solvent, the propellant, the size of delivered particles, if a spacer is used or not, and the dose utilised[7].

Fluticasone propionate (FP) is one the most used ICS for the treatment of children with RW[8-16]. Notwithstanding it is administered in combination with spacers, the results observed with the treatment of children with RW are quite variable. Increase in percentage of symptom-free days[8-10,12], decrease in symptoms score[9,14,15], reduction in the number of exacerbations[8,10,12], decrease in the use of rescue medication (inhaled beta 2 agonists[8,10,12] or oral corticosteroids[8,16]) were the main clinical outcomes observed. Improvement of lung function was verified by some[10,12], but not by others[9,13,15].

The administered doses of FP, the type of spacer, the length of the treatment, the type of patient treated (virus-induced RW or children with RW and high-risk of asthma), and the outcomes established: clinical and/or lung function measurements are some factors that would interfere with the disparities observed in results.

The dose of FP utilized in these studies has varied between 200 mcg and 750 mcg, once or twice daily, administered by pressurised metered dose-inhaler plus spacer. Patients with high-risk of asthma, in general respond better to the treatment with inhaled FP[10,12]. Another factor which can interfere in the results is the lung function measurement technique applied. Several methods are available for use in infants and young children[17]. It is well known that the measurement of forced flows is the most sensitive parameter to detect changes during the drug administration[17].

This issue of Allergologia et Immunopathologia features the study of Mallol et al which evaluates the once a day 375 mcg FP treatment, administered by pressurised metered dose-inhaler plus spacer to RW children with high-risk of asthma during three months[18]. At the end of the study they observed an improvement of clinical data: a reduction in the number of wheezing episodes reported by parents and diagnosed by a physician. A significant increase in forced flows was also observed and measured by the raised volume rapid thoracic compression technique (spirometry-like). These results might reinforce the anti-inflammatory action of FP to reduce the airway obstruction secondary to mucosa inflammation often present in these children. No interferences of the cortisol levels after the treatment were reported.

Considering that at least one third of children with RW would undergo asthma, inhaled FP would be prescribed for children with moderate to severe RW and followed for at least three months, with this scheme maintained for those who experienced clinical improvement. Although the inci-

dence of adverse effects due to ICS is low, patients must be closely followed-up to detect them early.

Apart from the good results reported by some authors, the long-term studies with ICS have demonstrated that, besides the control of symptoms, there is no evidence to support a subsequent disease-modifying effect of ICS i.e. there is no long-lasting effect on the natural history of wheezing/asthma in children[12,13,19].

Dirceu Solé
Full Professor and Head of Division of Allergy, Clinical Immunology and Rheumatology, Department of Pediatrics, Federal University of São Paulo, São Paulo, Brazil

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