Efficacy of controller therapies in childhood asthma

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Asthma is a serious global health problem. People of all ages in countries throughout the world are affected by this chronic airway disorder that when uncontrolled can place severe limits on daily life and can be fatal. The prevalence of asthma is increasing in most countries, especially amongst children. It is now estimated that as many as 300 million people of all ages and all ethnic backgrounds suffer from asthma. The burden of this disease on the government, health care systems, families, and patients is increasing worldwide. The increase in the prevalence of asthma has been associated with an increase in atopic sensitization, and is paralleled by similar increases in other allergic disorders such as eczema and rhinitis.

Effective management of asthma in children requires the development of a partnership between the parents/caregivers of the patient with asthma, and his or her health care professionals. Simple educational interventions (designated to teach self-management skills) amongst children admitted to the hospital have shown to significantly reduce readmission and morbidity rates. The goals for successful management of asthma are to achieve and maintain control of the symptoms, maintain normal activity levels (including exercise), maintain pulmonary function as close to normal as possible, prevent asthma exacerbation, avoid adverse effects from asthma medications, and prevent asthma mortality. These goals for therapy reflect an understanding of asthma as a chronic inflammatory disorder of the airways characterized by recurrent episodes of wheezing, breathlessness, chest tightness and coughing. Clinical studies have shown that asthma can be effectively controlled by intervention to suppress and reverse inflammation, as well as treating the bronchoconstriction related symptoms.

Although pharmacologic intervention to treat established asthma is highly effective in controlling symptoms and improving quality of life, measures to prevent the development of asthma by avoiding or reducing exposure to risk factors should be implemented wherever possible. Asthma exacerbations may be caused by a variety of factors sometimes referred to as triggers, including allergens, viral infections, pollutants and drugs. Because many asthma patients react to multiple factors that are ubiquitous in the environment, avoiding these factors completely is usually impractical and very limited to the patient. Therefore, medications to maintain asthma control play an important role in maintaining health. Each patient is assigned to one of five “treatment steps” depending on their current level of control, and treatment is adjusted in a continuous cycle driven by changes in their asthma control status. This presentation reflects the peculiarities of treatment steps for achieving control in children with asthma. Is also describes the prescriptions in long-term treatment with inhalation of low, medium, and high doses of glucocorticosteroids, leucotriene modifiers, therapies with sustained-release theophylline, cromones, long-acting β2 agonists, and anti-IgE treatment in patients of different ages. The presentation includes the peculiarity of long-term supervision, as well as assessment and monitoring of patients with asthma.

Key words: bronchial asthma, children, control, treatment.

Wheezing in children with persistent herpetic infection

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An evaluation was conducted of herpetic infections and clinical and immunological features in wheezy children. The study group included 54 children with recurrent wheezing, who were admitted to the Public Medical and Sanitary Institution Children’s Municipal Clinical Hospital No. 1 in 2008-2009. Patients were divided into 3 groups according to the age: group 1 – children aged 0-12 months (18.8%), group 2 – 12-24 months of age (62.9%), and group 3 – 24-36 months (18.3%). The herpetic infection diagnosis was confirmed by the following examination methods: PCR (polymerase chain reaction) and the immunoenzymatic technique. Humoral immunity was assessed using the Mancini method and cell-mediated immunity was assessed using sheep erythrocytes. All patients included in the study had positive family epidemiological anamnesis of herpetic infections. Analysis of the results was carried out by means of the medical statistical method.

Children with herpetic infections are at a major risk of recurrent wheezing. All examined children had mixed forms of herpetic infections (*Herpes simplex virus+Cytomegalovirus*). Association of the acute renal failure with *Herpes simplex virus+Cytomegalovirus* infections has facilitated the apparition of secondary humoral and cell-mediated immunological disorders (decrease of CD3, CD-4, CD8, and CD-20 levels and also immunoglobulin A and G fractions).

Key words: wheezing, acute respiratory infections, herpetic infections.