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Global variation in the prevalence and severity of asthma symptoms: phase three of the International Study of Asthma and Allergies in Childhood (ISAAC)

Authors: Lai CKW et al.
URL: http://thorax.bmj.com/content/64/6/476.long

Comment: This paper provides the most comprehensive data to date, on the worldwide prevalence of childhood asthma, including the prevalence in a number of countries in the Asia Pacific region. The paper presents clinically relevant data on the prevalence of severe asthma symptoms associated with increased health care use in children, thus providing a framework for estimating the burden of asthma in many countries worldwide.
An official American Thoracic Society/European Respiratory Society statement: asthma control and exacerbations: standardizing endpoints for clinical asthma trials and clinical practice

Authors: Reddel HK et al.


URL: [http://ajrccm.atsjournals.org/cgi/content/full/180/1/59](http://ajrccm.atsjournals.org/cgi/content/full/180/1/59)

Comment: This is an official joint document of the two societies that provides recommendations on standardized measures of asthma control and exacerbations, and which can be used in clinical trials and clinical practice. It includes a comprehensive literature review and provides a useful framework for clinicians and researchers alike.

Consistently very poorly controlled asthma, as defined by the impairment domain of the Expert Panel Report 3 guidelines, increases risk for future severe asthma exacerbations in The Epidemiology and Natural History of Asthma: Outcomes and Treatment Regimens (TENOR) study

Authors: Haselkorn T et al.


URL: [http://www.jacionline.org/article/S0091-6749(09)01144-0/abstract](http://www.jacionline.org/article/S0091-6749(09)01144-0/abstract)

Comment: The ATS/ERS joint task force has produced an extensive document on the definition of asthma control and exacerbations for clinical and research purposes. The document also lists a number of hitherto unanswered questions that should be clarified by future studies. The study by Haselkorn et al. shows that the frequency and severity of current asthma symptoms, rescue bronchodilator use, limitation of activities, and lung function can predict the risk of future exacerbations in patients with severe disease, thus supporting the current guidelines for assessing asthma control. It remains to be determined if identification of these at-risk individuals leads to better asthma control, and hence reduces the use of emergency health care.

The FDA and safe use of long-acting beta-agonists in the treatment of asthma

Authors: Chowdhury BA, Dal Pan G


URL: [http://content.nejm.org/cgi/content/full/NEJMp1002074v1](http://content.nejm.org/cgi/content/full/NEJMp1002074v1)

Comment: This perspective article explains the rationale behind the specific labelling changes for the use of long-acting beta-agonists (LABA) in the treatment of asthma. The statement that monotherapy with LABA is contra-indicated in asthma is in line with current guidelines. Although the guidelines suggest a step-down strategy of halving the dose of inhaled corticosteroid (ICS), whilst continuing with the same dose of LABA when asthma control is achieved and maintained with combination therapy, the FDA recommends that LABA should be withdrawn once asthma control has been achieved, and that controller medication, such as ICS, be maintained. Furthermore, the FDA argues against the guideline recommendation of adding LABA to low-dose ICS when asthma is inadequately controlled.
Thirteen-year follow-up of early intervention with an inhaled corticosteroid in patients with asthma

Authors: Haahtela T et al.
URL: http://www.jacionline.org/article/S0091-6749(09)01437-7/abstract

Comment: Previous studies from this group have shown that in adult patients with newly diagnosed asthma, regular therapy with inhaled budesonide during a 2-year treatment period, resulted in better asthma control compared with inhaled terbutaline therapy alone. A subsequent change of treatment to inhaled budesonide in the third year led to improvement of asthma control in the latter group of patients, although not to the level observed in patients who had received continuous treatment with budesonide for 3 years. In this follow-up study, which lasted for a further 10 years, both groups of patients achieved equally good functional control of their asthma, and incurred similar health care costs in relation to hospitalization and drugs. However, there was a trend for the group receiving delayed inhaled corticosteroid (ICS) treatment to achieve less optimal disease control and show more signs of airway inflammation, although the significance of these findings is uncertain. Thus, when it comes to ICS therapy in asthma, the message should be “better late than never”.

Oral prednisolone for preschool children with acute virus-induced wheezing

Author: Panickar J et al.
URL: http://content.nejm.org/cgi/content/full/360/4/329

and

Preemptive use of high-dose fluticasone for virus-induced wheezing in young children

Author: Ducharme FM et al.
URL: http://content.nejm.org/cgi/content/full/360/4/339

Comment: Acute virus-induced wheezing is a common condition in pre-school children. Although many of these children do not have asthma, they are frequently treated with a short course of corticosteroid, either in the inhaled or oral form, at the onset of an upper respiratory tract infection. In the first of these two randomised, placebo-controlled, double-blind studies, Panickar et al showed that oral corticosteroid did not reduce hospitalisations in these children. In contrast, preemptive use of high-dose fluticasone (1.5 g/day for 10 days) reduced the subsequent prescription of short courses of oral corticosteroid (a marker of severity of illness) by the attending physicians by more than half, when cases were compared with the placebo group. However, this modest clinical benefit was accompanied by a small reduction in linear growth and weight gain during the 6-12 month study period. Thus, the routine use of inhaled or oral corticosteroid is not recommended. Oral corticosteroid treatment may be considered for hospitalized, critically ill patients.
Efficacy of esomeprazole for treatment of poorly controlled asthma

Authors: The American Lung Association Asthma Clinical Research Centers
URL: http://content.nejm.org/cgi/content/full/360/15/1487

Comment: Gastroesophageal reflux disease (GERD) is common among asthma patients, but only about half of these patients have symptoms associated with this condition. Previous trials with proton-pump inhibitors (PPIs) have shown conflicting results on the efficacy of these drugs in improving asthma control in patients with symptomatic GERD. This randomized, double-blind, placebo-controlled trial showed that whilst a significant proportion (40%) of patients with poorly controlled asthma, who were asymptomatic or had infrequent symptoms of GERD, showed evidence of abnormal acid reflux, treatment with esomeprazole did not improve asthma control. The empirical use of PPIs in asthma patients who have minimal or no symptoms of GERD cannot therefore be recommended.

Effectiveness and safety of bronchial thermoplasty in the treatment of severe asthma: a multicenter, randomized, double-blind, sham-controlled clinical trial

Authors: Castro M et al.
URL: http://ajrccm.atsjournals.org/cgi/content/full/181/2/116

Comment: Previous studies have shown that bronchial thermoplasty (BT), a novel treatment for asthma involving the delivery of radiofrequency energy to the airway wall to reduce airway smooth muscle mass by a series of bronchoscopic procedures, may improve asthma control, improve lung function and reduce mild asthma exacerbations in patients with severe asthma. However, none of these studies have used a sham procedure. This study used a sham-controlled group who underwent the same procedures as the treatment group, except that no radiofrequency wave was applied during the bronchoscopic procedures. The BT group had significantly better asthma-specific quality of life, fewer severe exacerbations, less utilization of emergency health care and less absenteeism from work than the control group. However, there were no differences in improvement of lung function, symptom scores or symptom-free days between the two groups. Although there were more adverse respiratory events in the BT group than in the control group during the treatment period, fewer subjects in the BT group reported adverse respiratory events in the post-treatment period. This data therefore supports the use of BT as an add-on therapy in patients whose asthma is still symptomatic despite combination therapy with high dose inhaled corticosteroids and long-acting β2 agonists.
Mepolizumab and exacerbations of refractory eosinophilic asthma

Authors: Haldar P et al.
URL: http://content.nejm.org/cgi/content/full/360/10/973

and

Mepolizumab for prednisone-dependent asthma with sputum eosinophilia

Authors: Nair P et al.
URL: http://content.nejm.org/cgi/content/full/360/10/985

Comment: Previous studies have failed to show any clinical efficacy of mepolizumab, a monoclonal antibody against interleukin (IL)-5 in the treatment of asthma (Lancet 2000;356:2144-8; Am J Respir Crit Care Med 2003;167:1655-9; Am J Respir Crit Care Med 2007;176:1062-71). As IL-5 is a key eosinophilic cytokine and growth factor, it might be expected that anti-IL-5 treatment would show greater efficacy in the small proportion of asthma patients with severe disease and airway eosinophilia on sputum examination. Indeed, these two randomised, double-blind, placebo-controlled, parallel group studies have shown that mepolizumab reduced exacerbations and oral corticosteroid requirements in these highly selected patients, with only slight or no improvements in asthma control or airway calibre. These studies thus provide impetus for targeting future asthma treatments more individually, by accurately defining the various phenotypes of asthma, with use of sputum analysis to identify those patients with airway eosinophilia, who may benefit from anti-eosinophilic therapy.