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Exposure to environmental microorganisms and childhood asthma

Authors: Ege MJ et al.


URL: http://www.nejm.org/doi/full/10.1056/NEJMoa1007302#t=article

Comment: Previous studies have shown that children brought up on livestock farms have lower rates of asthma, hayfever and allergic sensitization. However, the mechanisms underlying this observation are still unknown. This study suggests that the diversity of microbial exposure in the farming environment may be an important determinant of this protective effect. Further studies to identify the specific species of microbes will allow a better definition of the immunobiological mechanisms that underlie the observed protective effect, and may pave the way for developing a vaccine for asthma and allergies.
Farm living: effects on childhood asthma and allergy

Authors: von Mutius E, Vercelli D.
URL: http://www.nature.com/nri/journal/v10/n12/full/nri2871.html

Comment: A must-read for anyone who is interested in the current status of this topic.

The role of acetaminophen and geohelminth infection on the incidence of wheeze and eczema: a longitudinal birth-cohort study

Authors: Amberbir A et al.
URL: http://ajrccm.atsjournals.org/cgi/content/full/183/2/165

Acetaminophen use and risk of asthma, rhinoconjunctivitis, and eczema in adolescents: International Study of Asthma and Allergies in Childhood Phase Three

Authors: Beasley RW et al.
URL: http://ajrccm.atsjournals.org/cgi/content/full/183/2/171

Comment: These two epidemiological studies, one longitudinal (Amberbir et al) and one cross-sectional (Beasley et al), have confirmed the previously observed association between the use of acetaminophen (paracetamol) and an increased risk of asthma and allergies in early childhood, and in adolescents. As the public health benefit is huge, if such causation is verified, randomised controlled trials to evaluate whether acetaminophen is indeed the culprit for the development of asthma and allergies, are urgently required.
Use of beclomethasone dipropionate as rescue treatment for children with mild persistent asthma (TREXA): a randomised, double-blind, placebo-controlled trial

Authors: Martinez FD et al.
URL: http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)62145-9/fulltext

Comment: This study provides evidence supporting another strategy for the long-term management of children with mild persistent asthma. Given that similar data have been reported for adults, it may be time to revive the use of a combination inhaler that contains beclomethasone dipropionate (BDP) and salbutamol, as a rescue treatment. Furthermore, this study also confirms the advice that rescue salbutamol should not be used alone, even in patients with mild persistent asthma.

Tiotropium bromide step-up therapy for adults with uncontrolled asthma

Authors: Peters SP et al.

Comment: While this study suggests that tiotropium bromide may be a suitable option for step-up therapy in adult patients whose asthma is not adequately controlled by inhaled corticosteroid alone, the short treatment period (3 months) was probably inadequate for evaluating the effects of treatment on exacerbation rates. Studies involving a longer treatment period (at least one year) may better define the efficacy and side effects profile of tiotropium bromide in asthma.

Step-up therapy for children with uncontrolled asthma receiving inhaled corticosteroids

Authors: Lemanske RF et al.
URL: http://www.nejm.org/doi/full/10.1056/NEJMoa1001278#t=article

Comment: The study has confirmed that step-up treatment with a long-acting β-agonist (LABA) is superior to use of either an inhaled corticosteroid (ICS) or a leukotriene receptor agonist (LTRA) as step-up therapy, even in children. However, it is also worth noting that not all children respond to therapy with LABAs in the same way. Thus, one should consider switching to either a higher dose of ICS or a LTRA, if LABA step-up therapy does not provide a satisfactory response.
Cost-effectiveness analysis of fluticasone versus montelukast in children with mild-to-moderate persistent asthma in the Pediatric Asthma Controller Trial

Authors: Wang L et al.
URL: http://www.jacionline.org/article/S0091-6749(10)01650-7/fulltext

Comment: Children with a phenotype indicative of more active airway inflammation (high levels of exhaled nitric oxide and airway responsiveness to methacholine) are likely to respond better to low-dose fluticasone than to montelukast. While fluticasone is more cost-effective than montelukast, as assessed by asthma control days, lung function and exacerbations, data on adverse effects, especially on growth, were not reported in this study.

Overall asthma control: the relationship between current control and future risk

Authors: Bateman ED et al.
Reference: J Allergy Clin Immunol 2010; 125; 600-8.
URL: http://www.jacionline.org/article/S0091-6749(09)01770-9/fulltext

Comment: This study provides data to support recommendations from current asthma guidelines that assessment of current control, based on a combination of symptoms, use of rescue medications and lung function, can predict the risk of future exacerbations.

A trial of clarithromycin for the treatment of suboptimally controlled asthma

Authors: Sutherland ER et al.
URL: http://www.jacionline.org/article/S0091-6749(10)01138-3/fulltext

Comment: In this 16-week trial, treatment with clarithromycin did not improve asthma control, lung function or airway inflammation, as assessed by exhaled nitric oxide levels. Interestingly, airway responsiveness to methacholine was reduced after clarithromycin treatment, raising the possibility that a longer treatment period may reduce exacerbations. Furthermore, as the number of subjects whose bronchial biopsies were PCR positive for either Chlamydophila pneumoniae or Mycoplasma pneumoniae was small, further studies on selected patients with evidence of colonization by these organisms in the lower airways, may clarify the potential role for macrolides in the treatment of asthma.
A mobile telephone-based interactive self-care system improves asthma control

Authors: Liu WT et al.
URL: http://erj.ersjournals.com/content/37/2/310.long

AND

Telehealthcare for asthma

Authors: McLean S et al
URL: http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD007717/frame.html

Comment: With the recent advances in telecommunications, healthcare policy makers are exploring the use of these methods for the delivery of care to patients with chronic illnesses, including asthma. The study by Liu et al. used a mobile phone interactive self-management system to improve asthma control in Taiwanese patients with moderate-to-severe asthma. Their findings concur with those from the Cochrane review (McLean et al) that telehealthcare interventions are unlikely to be of benefit in patients with mild asthma but may have a role in those with more severe disease, who are at high risk of hospital admission.