

Trainer's Journal Club

June 26, 2005 Discussion Summary
4pm EDT



Facilitator:

Margaret Lester, DIRECTOR OF EDUCATIONAL PROGRAMS

Staff in attendance:

Casey Jones, COPD COURSE LEAD

Trainers

Sheila Driver, NORTH CAROLINA

Pam Ellwood, NORTH CAROLINA

Kathy Huber, CALIFORNIA

Kathy Smith, WASHINGTON

Other

Sharrel van Rossum, COLLEAGUE OF KATHY HUBER

Agenda items:

- I. **New for the NRTC Assessment & Management Courses**
 - II. **Medications Updates**
 - III. **Articles for discussion**
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I. **New for the Assessment & Management Courses**

- The Asthma Course workbook now has spirometry and patient education chapters. The patient education chapter has received good reviews. There is also a significantly rewritten section on diagnosing asthma in children and trainers should familiarize themselves with these new units before training on an asthma course.

II. **Medications Update**

- Xopenex HFA in MDI now approved; Sepracor expects to launch in January 2006
- Asmanex in Twisthaler now approved; expected to launch in Fall 2005. Participants are encouraged to review the Respiratory Therapeutics CD-ROM to see how to use this device.

III. **Articles for Discussion**

Childhood Asthma Management Program Research Group (2000). Long term effects of budesonide or nedocromil in children with asthma. *New England Journal of Medicine* **343**, 1054-63

Silva GE, Sherrill DL, Guerra S, Barbee RA (2004). Asthma as a risk factor for COPD in a longitudinal study. *Chest* **126**, 59-65

Stoller JK (2003). Key current issues in alpha-1 antitrypsin deficiency. *Respiratory Care* **48**, 1216-1221

Bateman ED, Boushey HA, Bousquet J, Busse WW, Clark TJH, Pauwels RA, Pedersen (2004). Can guideline-defined asthma control be achieved? *American Journal of Respiratory and Critical Care Medicine* **170**, 836-844

Summaries following...

CAMP Study

Childhood Asthma Management Program Research Group (2000). Long term effects of budesonide or nedocromil in children with asthma. *New England Journal of Medicine* **343**, 1054-63

Study objective	It has been assumed that early recognition of asthma and treatment with anti-inflammatory medicines could modify the natural history of the disease, specifically the decline in lung function over time. The CAMP study was designed to test this hypothesis.
Study design	1041 children ages 5-12 with mild-moderate asthma randomized to 3 treatment arms: 200 mcg budesonide bid, 8mg nedocromil bid, or placebo bid. All participants were treated for 4-6 years.
Key findings:	<ul style="list-style-type: none">– Airway hyperresponsiveness improved in all 3 groups, but budesonide group was substantially and significantly better than the other two groups. It appears that the benefit results from changes in bronchomotor tone or airway inflammation, and not to prevention or resolution of remodeling. The improvement with budesonide disappeared within 4 months after discontinuation of treatment.– Effect of budesonide on growth velocity is not sustained and should not be extrapolated to projected loss in subsequent years.– No difference between the groups in bone density; no evidence of cataracts.

“An irreversible deterioration in lung function might have occurred in the patients before their enrollment and the treatment might therefore have been too late to effect a change. Eight percent of all childhood asthma is diagnosed by the age of six years, and normal proliferation of the alveoli and airway development occur predominantly before the age of 5 years. We enrolled children from 5-12 years of age who had had asthma for a mean of 5 years.” p 1061

Key points of the discussion:

- The Asthma Predictive Index as a useful tool for diagnosing asthma in young children. This research underlies the recommendations in the 2002 updated Guidelines. Further references:
Guilbert TW *et al* (2004). *J Allergy Clin Immunol* **114**, 1282-7
Guilbert TW *et al* (2004) *Control Clin Trials* **25**, 286-310
- In a series of papers by Fernando Martinez *et al*, in Tucson, the distinction is made between **Early Transient Wheezers** (children who wheeze during the 1st 3 years of life, but no longer wheeze by age 6), and **Persistent Wheezers**. In testing before age 1, there was no difference in lung function between the non-wheezers and the persistent wheezers. However, when these same children were retested at age 6, the persistent wheezers had lost significant lung function.

Is Asthma a Risk Factor for COPD?

Silva GE, Sherrill DL, Guerra S, Barbee RA (2004). Asthma as a risk factor for COPD in a longitudinal study. *Chest* **126**, 59-65

Study objective	To evaluate the association between physician-diagnosed asthma and subsequent development of COPD in a cohort of 3,099 adults from Tucson, AZ.
Study design	Prospective observational study over 20 years, white, non-Mexican American households. n=3099 adults from Tucson, AZ.
Key findings:	<ul style="list-style-type: none">– Active asthma (AA) (patient self-reports current symptoms) was significantly associated with subsequent development of chronic bronchitis (CB), emphysema and COPD. Not true for inactive asthma (patient self-reports does not have asthma symptoms at time of survey).<ul style="list-style-type: none">• AA 10x more likely to acquire symptoms characteristic of CB• 17x more likely to receive an MD diagnosis of emphysema• 12.5x more likely to meet COPD criteria– No significant association between asthma duration or age of asthma onset with CB, emphysema, or COPD.– Asthma may be associated with lower baseline FEV1 and higher rate of decline in lung function even after adjusting for smoking.– Airway hyperresponsiveness (AHR) seems to be a significant predictor of the rate of decline in FEV1. AHR is clearly seen in asthma; therefore AHR may be a contributing risk factor for COPD, although the nature of the association is not yet clear.

This study shows a significant association between active asthma diagnosis at initial survey and subsequent development of signs and symptoms consistent with COPD. The mechanism by which asthma may contribute to development of COPD is not yet known.

Discussion focused on how we use these findings in patient teaching and clinical practice. The article further supported the need to stress control of asthma symptoms, even though we still do not know if we can change the natural history of the disease. We also need to be open to using COPD treatments for asthma patients not responding to asthma treatment.

Do we need to know about testing for Alpha1?

Stoller JK (2003). Key current issues in alpha-1 antitrypsin deficiency. *Respiratory Care* **48**, 1216-1221

This article summarizes the ATS/ERS guidelines document for alpha-1 antitrypsin deficiency issued in 2003. You can download the document from the Alpha-1 Foundation website: www.alphaone.org (click on Publications).

The key point of this topic was to raise consciousness of many of us in primary care that we **do** need to be looking out for AAT deficiency. We discussed that AAT deficiency affects both the lungs and the liver. We also discussed the Level A recommendations on who should be tested:

- Adults with symptomatic emphysema or COPD
- Symptomatic adults with asthma that is incompletely reversible despite aggressive bronchodilator therapy
- Asymptomatic adults with persistent airflow obstruction and smoking or occupational exposure
- Adults with necrotizing panniculitis
- Siblings of an individual who is a PI*ZZ homozygote

The NRTC promotes the use of guidelines in practice, including the ATS/ERS recommendations on testing for AAT deficiency. Let's be sure to change our own behavior as new guidelines are issued. We want to be sure that we are not guilty of "we don't test because AAT is so rare," or, "We don't test because we've never tested for it before." Everyone needs to be aware of and incorporate new information into practice and into teaching on NRTC courses and workshops.

The GOAL Study

Bateman ED, Boushey HA, Bousquet J, Busse WW, Clark TJH, Pauwels RA, Pedersen SE (2004). Can guideline-defined asthma control be achieved? *American Journal of Respiratory and Critical Care Medicine* **170**, 836-844

Study objective	To determine the proportion of patients who achieved well-controlled asthma with fluticasone/salmeterol combination therapy vs fluticasone alone. "Totally controlled" and "well controlled" were rigorously defined and guideline-based (p. 836).																														
Study design	<p>1 year, randomized, stratified, double-blind, parallel-group study of 3421 patients with uncontrolled asthma divided into 3 strata: Previously corticosteroid free, Low dose ICS users, Moderate dose ICS users</p> <ul style="list-style-type: none"> Phase 1: dose escalation phase (tx stepped up q12 weeks to total control or 500 mcg fluticasone bid) Phase II – started when patients had achieved total control or when they had been on max therapy for 12 weeks. Stayed on until end of the year. <p>There was no step-down of treatment.</p>																														
Key findings:	<p>– End of Phase II (constant dose phase)</p> <table border="1" data-bbox="594 842 1383 1224"> <thead> <tr> <th></th> <th>fluticasone alone</th> <th>Fluticasone/salmeterol</th> </tr> </thead> <tbody> <tr> <td colspan="3">Stratum 1 (ICS naïve)</td> </tr> <tr> <td>Totally controlled</td> <td>40%</td> <td>50%</td> </tr> <tr> <td>Well controlled</td> <td>70%</td> <td>78%</td> </tr> <tr> <td colspan="3">Stratum 2 (low dose ICS users)</td> </tr> <tr> <td>Totally controlled</td> <td>28%</td> <td>44%</td> </tr> <tr> <td>Well controlled</td> <td>75%</td> <td>60%</td> </tr> <tr> <td colspan="3">Stratum 3 (moderate dose ICS users)</td> </tr> <tr> <td>Totally controlled</td> <td>16%</td> <td>29%</td> </tr> <tr> <td>Well controlled</td> <td>47%</td> <td>62%</td> </tr> </tbody> </table> <p>Most who achieved control maintained it.</p> <ul style="list-style-type: none"> Total control is a realistic expectation for ICS naïve patients. It may not be possible for patients previously on med/high doses of ICS but even they can achieve significant benefit, especially on exacerbations. There was also a further improvement in 8-12% of patients in FEV1, exacerbations rates, and quality of life. This delayed realization of full benefits may reflect a more gradual resolution of inflammation. 40-53% of patients reached totally controlled asthma at the lowest dose of fluticasone when combined with salmeterol. 		fluticasone alone	Fluticasone/salmeterol	Stratum 1 (ICS naïve)			Totally controlled	40%	50%	Well controlled	70%	78%	Stratum 2 (low dose ICS users)			Totally controlled	28%	44%	Well controlled	75%	60%	Stratum 3 (moderate dose ICS users)			Totally controlled	16%	29%	Well controlled	47%	62%
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