



FPAGC

Family Physician Asthma Group of Canada
l'Association canadienne des médecins de famille contre l'asthme

MESSAGE FROM THE CHAIR

I am writing this at the end of the "tree and grass pollen" season. These summer allergens will no doubt have affected many of your asthma patients.

The FPAGC ran another successful MAINPRO-C workshop at the Canadian College of Family Physicians' Annual Scientific Assembly in Victoria, B.C. last May. The Ontario Chapter of the College has asked us to repeat the exercise, which we did in November in Toronto.

ASED IV was held in Halifax, NS, 12-13 November 1999, and was again a very successful event.

The second Asthma Consensus Guidelines will be published this fall. We welcome this document which incorporates the use of leukotriene receptor antagonists (LTRAs) and long-acting Beta-2 agonists in the asthma

action plan. The guidelines will be distributed to physicians, health care workers, and, eventually, to the public.

CNAC (Canadian Network for Asthma Care) has produced a national certification exam for Asthma Educators. This has resulted in a spin-off organization being developed called the COPD Alliance, which is being chaired by Toronto respirologist Dr. Roger Goldstein. The first conference for this group was held in Ottawa in October. Dr. Josiah Lowry of the FPAGC executive was there to present a talk on spirometry.

An article on Alpha 1-antitrypsin in this newsletter shows that new developments in asthma continue.

Alan Kaplan,
Chairman FPAGC

DIFFERENTIATING ASTHMA FROM COPD

One of the most common and challenging questions when dealing with adults with asthma is whether or not they have fixed airways disease (chronic obstructive pulmonary disease, or COPD) as well as reversible disease. Traditionally, we have said that asthma was not a cause of COPD but we have now rejected that view. There is no doubt that longstanding asthma, particularly if under-treated or complicated by smoking, can and does lead to COPD. Causing further confusion for family doctors have been the 20% of COPD patients who are termed "steroid responders". They have greater than 20% reversibility in their obstruction but are not diagnosed as having "asthma".

Let's begin by discussing the definitions of COPD. The recent Guidelines for the Treatment of COPD, published by the Canadian Respiratory Review Panel Nov, 1998, state that COPD "refers to a spectrum of respiratory diseases which is characterized by some mixture of chronic cough, increased sputum production, dyspnea, airflow limitation and impaired gas exchange. The major characteristic of COPD is the presence of chronic airflow limitation that progresses slowly over a period of years and is irreversible." This definition allows for any pathological process to lead to COPD, including asthma, if the end result over years is irreversible obstruction. However, there is a subgroup of COPD patients who are "steroid responders" who will presumably benefit from long-term inhaled or oral steroids, but will show a degree of persistent irreversible airflow limitation despite maximal therapy. A proportion of these patients are previously undiagnosed asthmatics with permanent lung damage.

Recently, the World Health Organization's Global Obstructive Lung Disease initiative (GOLD) defined COPD as "progressive airflow obstruction caused by an abnormal inflammatory reaction to chronic

inhalation of particles". This definition is sufficiently broad to allow for inclusion of any cause of chronic inflammation, known or unknown, that leads to COPD. The WHO is predicting a large "tidal wave" of COPD developing globally, with a rapidly increasing prevalence, especially in women over age 65, which will not just be a reflection of increased lung testing and diagnosis. Presumably it is related to environmental and lifestyle factors such as tobacco smoke. COPD currently represents the fifth leading cause of death world-wide and is predicted to rise to third place within a decade. Therefore, family doctors will have to become much better at diagnosing and managing COPD.

It may be most helpful to think of asthma and COPD as clinical syndromes rather than as diseases. As such we can differentiate between the two on a clinical basis. COPD occurs in older patients (average age 65 yrs), most often secondary to smoking. The FEV1 is reduced to below 70% of predicted, disability develops slowly over years, and symptoms develop of cough, sputum production and dyspnea. There may be partial reversibility with beta agonists but the obstruction is largely fixed. Diffusing capacity may be decreased if there is significant emphysema, and hypoxemia is present in the advanced chronic stage.

Asthma can occur at any age but typically starts in childhood or young adults, is not caused by smoking although adversely affected by it, is associated with allergies in over 50% of patients, is episodic, and shows reversibility with the FEV1 returning to normal between attacks. Symptoms include dyspnea, wheezing, cough and chest tightness during the attacks, which occur intermittently. The diffusing capacity should be normal and hypoxemia should be present only, if at all, during moderate to severe attacks.

Differentiating asthma and COPD is easy when you have the typical syndromes presenting to you. It is much more difficult when, for example, a middle-aged smoker presents to you with a picture of partially reversible airways obstruction and you are not sure which treatment algorithm to follow. The first thing to do is to document the patient's airways obstruction over time with spirometry. The spirometry is done at regular intervals so as to provide serial objective measures. We know that the physical examination is unreliable for estimating the degree of airways obstruction. If the obstruction is highly variable over time then one is more suspicious of the diagnosis of asthma. Conversely, if there is little change in the FEV1 over time the more likely diagnosis is COPD.

Patients with long-standing airways obstruction from COPD often accommodate to their reduced lung function with very few symptoms, despite a markedly reduced FEV1. Patients with asthma are usually much more sensitive to changes in their airways obstruction, complaining of respiratory distress with quite small changes in their FEV1. However, there is a small subset of asthma patients who appear to have a blunted response to the presence of obstruction and they are particularly at risk for life-threatening asthma attacks.

Once one has documented the pattern of obstruction with which one is dealing in a particular patient one may send him/her for further pulmonary function tests, including carbon monoxide (CO) diffusion and lung volumes. If the CO diffusion is decreased it will suggest that there is impaired gas exchange, most commonly due to the emphysema component of COPD, which will thus differentiate it from asthma. Lung volumes on the other hand may be increased in either condition and are not usually helpful for differentiating between the two. If one detects a decreased CO diffusion and one suspects emphysema one might consider a

high-resolution CT Scan which is being used more and more to demonstrate emphysematous scarring as well as bullous changes that may be amenable to lung reduction surgery.

Many clinicians feel that all patients who have persistent non-reversible airways obstruction, be it mild, moderate, or severe, should be given a trial of oral prednisone to determine how much of their obstruction can be improved. Obviously, the majority of these patients will not show any significant benefit and they have COPD. A small percentage will show complete or near complete resolution of their obstruction and they can be diagnosed as having asthma. However, there will be a significant number (10-20%) who improve more than 20% with a steroid trial but have significant residual obstruction consistent with COPD, and they will likely benefit from chronic inhaled steroid therapy. These patients are often referred to as "wheezy bronchitics".

Another possible test for differentiating these two diagnoses is sputum induction for cytology. There is increasing evidence that patients who have sputum with predominantly eosinophils are more likely to have asthma or to be steroid-responding COPD patients. In contrast, neutrophils predominate in the sputum of most COPD patients. Some clinicians are using this approach routinely to help with treatment decisions.

Ultimately for the family doctor the greatest diagnostic tool available is time. Combining a careful past history with knowledge of the patient's ongoing spirometry and symptoms will make the diagnosis clear most of the time. Further diagnostic testing as described, along with respirology consultation if necessary, will sort out the rest.

Dr. Josiah Lowry
Executive member FPAGC

NEW THERAPIES IN ASTHMA

Protease inhibitors have been very prominent in recent years in the management of HIV due to their ability to halt the progression of the virus. In patients with the inherited type of emphysema due to alpha-1 antitrypsin deficiency, the intravenous infusion of AAT (alpha-1 antitrypsin) has been shown to limit the progression of chronic loss of lung function.

At the American Thoracic Society International Conference in San Diego, California researchers reported for the first time that AAT may be useful in the treatment of asthma.

Dr. William Abraham's group at the University of Miami reported that aerosolization of AAT into the lungs of patients with mild asthma blocked airway-hyper-responsiveness in six out of eight individuals tested. In addition they reported benefit with a recombinant DNA-derived version of AAT in sheep.

AAT may indeed be a future anti-inflammatory agent for asthma. Keep listening.....

Alan Kaplan
Chairman, FPAGC

MAKING THE TRANSITION TO A CFC-FREE WORLD

It was first suggested in the 1970's that human activities were a possible cause of depletion of the ozone layer, which would lead to increased levels of ultraviolet radiation at the Earth's surface. In 1985, scientists discovered that the density of the ozone layer was reduced over the South Pole. The depletion of the Earth's ozone layer is being caused by specific industrial chemicals which have made their way into the upper atmosphere. Chlorofluorocarbons (CFC) are one of the main culprits.

Canada took the lead in this problem with an international conference held in Montreal on Sept 16, 1987, which led to the Montreal Protocol on Substances that Deplete the Ozone Layer. This protocol was signed by 24 countries. By 1996, Canada and other developed countries had stopped producing or importing new CFCs, with a few temporary exceptions. One of these exceptions was the production of the metered dose inhaler (MDI) for asthma..

More than 2.7 million Canadians suffer from asthma or chronic obstructive pulmonary diseases, and they use more than 10 million inhalers each year (releasing 214 tonnes of CFC into the atmosphere). Each signatory to the Montreal protocol is

required to have a transition strategy in place by Jan. 1999. I am one of the physicians involved on the Canadian national educational committee on CFC transition. The protocol also demands a 60% reduction in the use of CFC MDIs by 2001, and a complete phase out by 2005. This will require government partnership with professional groups, pharmaceutical companies and the public.

We now have alternatives to CFC MDIs for most of our medications. This allows us to start our initiative now, i.e. advising our patients on the alternatives to CFC MDIs. But we do not want patients panicked into thinking that they will not be able to get their asthma medication! The transition strategy is to ensure that physicians and pharmacists will be the first targeted with relevant information, so that they can properly advise their patients.

The alternatives include any of the dry powder inhalers (as there is no CFC in these devices). There are no CFCs in nebulizers either, but these have limited utility. New technology has brought an MDI with a different propellant (hydrofluoroalkane or HFA) which is much safer for the environment. Your patient will notice a difference in the MDI and should be advised accordingly. The

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aerosol is softer, warmer, and has a different taste and feel to that of the CFC MDI. Some patients may need to be reassured that they are still getting the correct medication.

Some other advantages of the HFA MDI include temperature stability over a wide range and more reliable dosing towards the end of the canister. Currently the only HFA MDI which is available is a salbutamol

product (*Airomir*). (Salbutamol accounts for about 55% of the Canadian MDI market). A beclomethasone HFA MDI is due to be released soon.

More information can be obtained by calling the author, or visiting Environment Canada's website at www.ec.gc.ca/ozone/mdi.
Alan Kaplan,
Chairman FPAGC

WANTED - EDITOR FOR FPAGC NEWSLETTER

This is the last newsletter that I will be editing. Having looked after its production for the last five years it is time for a change - for both the newsletter and me. Editing the newsletter has been both enjoyable and frustrating. Enjoyable when I can put together an issue full of items relevant to the ordinary FP in a busy office. Frustrating when I haven't enough articles to fill the newsletter. Fortunately for the latter situation the FPAGC chairperson is a prolific writer on a variety of asthma related topics, and he would always come through with a short piece to fill any blank spaces.

I would have preferred a broader spectrum of authors, but FPs are busy people,

and finding time to write an article is not easy. The FPAGC now needs someone to take on the task of editing the newsletter. If you are interested but have no editing experience, don't be reticent. I am quite willing to help "in the background". And if you do have editing or writing experience then please consider taking on the task. We try for three copies per year, although this year we managed only two.

I shall remain a member of the FPAGC, and will look forward to seeing the next edition of the newsletter.

Mervyn Dean
Editor, FPAGC Newsletter

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