Family Physician Airways Group of Canada

Airways Update

October 2015

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Chairperson's Report

Autumn is here and the medical meetings commence. I have just returned from the European Respiratory Society meeting in Amsterdam where more and more there is a primary care presence. Dr.Bjorn Stallberg has been the chair of the Primary Care Assembly (he is a GP from Sweden and one of the authors of the PATHOS trial) whose term is up. Dr. Hilary Pinnock is the new chair, a GP from the UK who is one of the editors of the Nature Primary Care Respiratory Journal and who I created a spirometry interpretation sheet for the GPIAG (our sister organization, the GPs in Airways Group) many years ago.

The ERS had a great number of programs on Asthma regarding newer phenotypes of asthma as we move into the new biologic therapies for severe asthma, on COPD including smoking, pharmacotherapies, patient choice, exacerbation prevention and new treatments, on IPF with the launch of two now proven therapies (cf the old standard of Imuran and Prednisone which in the PANTHER trial actually showed increased mortality) and respiratory infection.

I also had the opportunity to be involved in a couple of symposia on COPD as well as chair an interesting abstract session and even present an abstract of our own on the knowledge of Electronic cigarettes in Canadian physicians; thanks to those of you who completed this survey.

Coming up is the Family Medicine Forum in November in Toronto. We work in conjunction with the Communities of Practice Respiratory Medicine Section of the College of Family Physicians of Canada which will be involved in a session called "Doc, I cannot breathe" which promises to review how to delineate and manage a host of issues that cause dyspnea. There are a host of other respiratory talks (see later in the newsletter) being given including a breakfast of the Respiratory Medicine group which will review the key Respiratory articles of the last year. Breakfast and an update, who can beat that?

Flu season is ahead and you have likely all begun giving flu shots. The Ontario government has approved and funded the nasal flumist for children 2 -17 due to evidence of im-

proved efficacy in this age group. Please remember this is a live attenuated vaccine and that pregnancy and immunocompromising conditions are a contraindication.

We do have a few new projects on the go. We continue to partner with MD Briefcase as their Lung Health Portal for a number of web based educational initiatives. In addition, we had a tremendously successful Respiratory Updates program in conjunction with Primary Care Updates and the second and third stages are underway to review how good a job we did of knowledge translation (do you understand the CME) as well as behavior change (did you incorporate it into your practices). We hope to be able to do this again next year and working with our partner CME solutions to improve this process even further.

We have a few more research programs going on including a survey on spirometry in your practices and some further surveys on asthma and COPD management.

As always, please come over and say hello to me at any of our sections, I am proud to represent you as the FPAGC chair. I am always available through email at

NOTICE OF ANNUAL GENERAL MEETING

The Family Physician Airways Group of Canada will hold their Annual General Meeting on Thursday November 12, 2015 at 6:30pm. The meeting is held in conjunction with the FMF in Toronto and will be held in the Wentworth Room in the Intercontinental Toronto Centre Hotel, 225 Front Street West, Toronto; Tel 416-597-8122.

There will be a short presentation by Dr. Alan Kaplan, **"The missing millions of COPD" .** This will be followed by the AGM items. Items on the agenda include election of officers, review of the financial statement and appointment of auditors.

A dinner will be served during the meeting and there is no cost for attending the meeting.

All members are invited to attend this meeting and dinner. Please notify the National Office no later than Monday November 2, 2015 if you plan to attend.

Contact Glyn at admin@fopagc.com to confirm your attendance

Can I Have the Flu Shot if I am Pregnant?

Madhi SA et al. Influenza vaccination of pregnant women and protection of their infants. N Engl J Med. 2014 Sep 4;371(10):918-31. doi: 10.1056/NEJMoa1401480.

Pregnant women are afraid for their baby when offered vaccination. There are limited data on the efficacy of vaccination against confirmed influenza in pregnant women with and those without human immunodeficiency virus (HIV) infection and protection of their infants.

The MatFlu group conducted two double-blind, randomized, placebo-controlled trials of trivalent inactivated influenza vaccine (IIV3) in South Africa during 2011 in pregnant women infected with HIV and during 2011 and 2012 in pregnant women who were not infected. The immunogenicity, safety, and efficacy of IIV3 in pregnant women and their infants were evaluated until 24 weeks after birth. Immune responses were measured with a hemagglutination inhibition (HAI) assay, and influenza was diagnosed by means of reverse-transcriptase-polymerase-chain-reaction (RT-PCR) assays of respiratory samples.

The study cohorts included 2116 pregnant women who were not infected with HIV and 194 pregnant women who were infected with HIV. At one month after vaccination, seroconversion rates and the proportion of participants with HAI titers of 1:40 or more were higher among IIV3 recipients than among placebo recipients in both cohorts. Newborns of IIV3 recipients also had higher HAI titers than newborns of placebo recipients. The attack rate for RT-PCR-confirmed influenza among both HIV-uninfected placebo recipients and their infants was 3.6%. The attack rates among HIV-uninfected IIV3 recipients and their infants were 1.8% and 1.9%, respectively, and the respective vaccine-efficacy rates were 50.4% (95% confidence interval [CI], 14.5 to 71.2) and 48.8% (95% CI, 11.6 to 70.4). Among HIV-infected women, the attack rate for placebo recipients was 17.0% and the rate for IIV3 recipients was 7.0%; the vaccine-efficacy rate for these IIV3 recipients was 57.7% (95% CI, 0.2 to 82.1).

Influenza vaccine was immunogenic in HIV-uninfected and HIV-infected pregnant women and provided partial protection against confirmed influenza in both groups of women and in infants who were not exposed to HIV.

Editorial: To answer your patients who say that they do not want a Flu shot because they are pregnant.....GET the shot! It protects you and your baby. Results are crystal clear, even in an immunocompromised group like those with HIV. Other studies have reinforced the safety and efficacy, with results including less premature labour and other bad outcomes.

Feel free to review past accredited online CMEs from MD Briefcase for your learning pleasure. These can be found on the FPAGC web site under 'Tools' go to http://fpagc.com/tools.html These were accredited for Mainpro C credits and you can review them at your leisure. Please let us know if you find them of value.

Do You Send Home Patients from ER on ICS??
Quality improvement methods improve inhaled corticosteroid prescribing in the emergency department.

Andrews AL, Russell WS, Titus MO, Braden J, Word C, Cochran C, Adams S, Roberts JR. J Asthma. 2014 Sep;51(7):737-42.
doi: 10.3109/02770903.2014.911885. Epub 2014 May 14.

Inhaled corticosteroids (ICS) are underutilized among persistent asthmatics. Because of low outpatient follow-up rates after Emergency Department (ED) visits, children are unlikely to be prescribed ICS by their primary care physician after an acute exacerbation. ED physicians have the opportunity to contribute to the delivery of preventive care in the acute care setting. The study's objective was to evaluate if quality improvement (QI) methods could improve the rate of ICS initiation at ED discharge.

Within the Pediatric ED (PED) at a tertiary children's hospital, QI methods were used to encourage ICS prescribing at the time of ED discharge. Interventions focused on education at both the attending physician and resident level, process improvements designed to streamline prescribing, and directed provider feedback. This involved multiple plan-do-study-act cycles. Medical records of eligible patients were reviewed monthly to determine ICS prescribing rates. The effect of the interventions on prescribing rate was tracked over time using a run chart.

Following our interventions, the ICS initiation rate for children seen in and discharged home from the ED with an acute asthma exacerbation increased from a baseline median rate of 11.25% to a median rate of 79% representing a significant, non-random improvement. The ICS initiation rate has been sustained for 8 months over their goal rate of 75%.

This study demonstrates that QI methods can be used to increase inhaled corticosteroid initiation rate at the time of ED discharge and, thus, improve the delivery of preventive asthma care in the acute care setting.

Editorial: How are you at ensuring acute asthmatics in ER go home on systemic steroids (probably pretty good)? How about being given ICS in the ER (this has been shown to improve outcomes)? How about ensuring that the patient goes home on the medications for this chronic disease to hopefully prevent them form returning? This important discharge treament is unfortunately still often neglected. When I was chief of ER, my process to create change was to study it. Lo and behold, being studied changes physician behavior! Try it in your office/department.

Comparison of Two versus Six Minute Walking Test in Patients With Severe COPD

ERS Abstract 3620 Author: Gloeckl

The six minute walking test is well validated and probably the most used field walking test in patients with COPD. The two minute walking test is less known, but clearly more convenient for both the patient and the clinician.

Thus the aim of this study was to investigate relations between two minute walking distance (2MWD) and six minute walking distance (6MWD) regarding exercise capacity, exercise induced oxygen desaturation and symptoms in patients with severe COPD.

Twenty-six patients with COPD (age: 61-10ys, FEV1: 37 10%) performed a 2MWD and 6MWD without supplemental oxygen on two consecutive days in random order and repeated the two tests one week later in reverse order. Total walking distance, continuous recording of oxygen saturation and heart rate and perceived exertion for dyspnea and leg fatigue on a 10-point Borg scale were evaluated. Mean values of the two 2MWDs and 6MWDs were taken for analysis.

Patients walked 401m (95%CI 352 to 450m) in the 6MWD and 153m (95%CI 138 to 169m) in the 2MWD ($r=0.84$, $p<0.0001$). The minimal oxygen saturation during 6MWD (mean 82%, 95%CI 80 to 84%) and 2MWD (83%, 95%CI 81 to 85%) showed a high correlation ($r=0.85$, $p<0.0001$) as well as peak heart rate (6MWD: 118bpm, 95%CI 113 to 123bpm vs. 2MWD: 113bpm, 95%CI 109 to 117bpm; $r=0.86$, $p<0.0001$). Also perceived levels of dyspnea ($r=0.79$, $p<0.0001$) and leg fatigue ($r=0.92$, $p<0.0001$) at the end of walking tests correlated very
well.

Conclusion: The 6MWD and 2MWD show high grades of congruence in evaluating exercise capacity, oxygen desaturation and levels of perceived exertion in patients with severe COPD. Therefore, the 2MWD may be of higher clinical relevance than previously expected.

Editors Note:
The staff at our Pulmonary Rehab clinic will be very interested in being able to cut 4 minutes off a walk test...and likely so will the patients.

Low Fruit Intake and Exercise are Associated with COPD in the USA

ERS astract 3648 Author: Tatsiana Beiko

Diet and exercise are modifiable risk factors for COPD. Fruits and vegetables contain antioxidants, may protect from oxidative stress and are associated with COPD and survival.

The authors hypothesized that poor diet and low exercise are more prevalent in COPD patients and those with comorbidities.

Methods: The Behavioral Risk Factor Surveillance System is the world's largest health survey. It routinely collects demographic factors, comorbidities, physical activity, and smoking status. In 2012 an optional module on diet was queried by 5 states. A chi square and a t-test analyzed categorical and continuous variables with a significant p-value <0.05. Multivariate logistic regression adjusted for demographic factors and smoking to model the impact of diet and exercise on COPD generating odds ratio (OR) and confidence interval (CI). SAS 9.4 for Windows (SAS Institute Inc., USA) was used for analysis.

Results: We analyzed 32,953 subjects of whom 9.6% reported COPD. Those with higher education, income and employed were less likely to have COPD. COPD patients were less likely to consume fruits and had less exercise compared to non-COPD patients. Most had a presence of two or more comorbidities (58.62%) and were less likely to report physical activity (OR 0.72 CI 0.62-0.85).

Conclusions: Dietary intake of fruits and exercise are decreased in COPD patients. Future studies will elucidate the effect of nutrition and exercise on COPD.

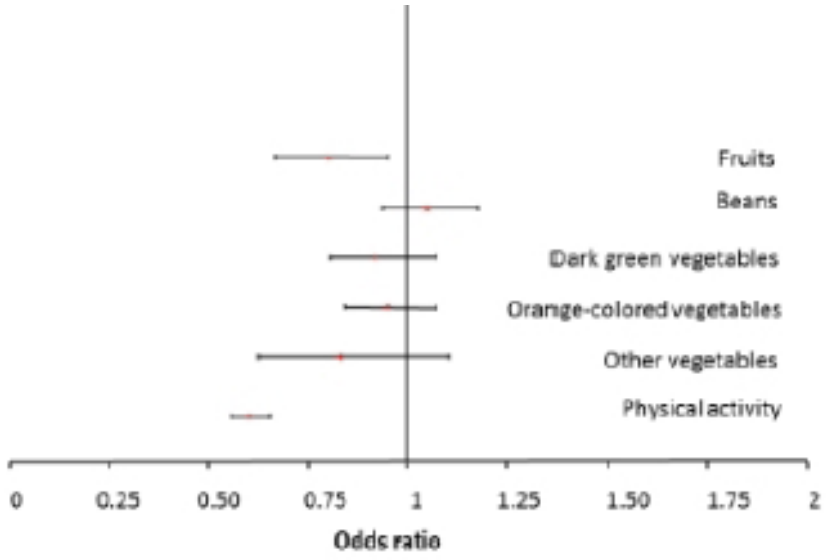

Figure 1: Dietary intake and physical activity in relation to non-COPD patient compared to COPD patients

Editors Note: Not sure how important this is, but still three important messages come from this paper

1) COPD patients may not eat properly
2) COPD patients have multimorbidity
3) COPD patients are inactive.
These things we can attempt to have impact on in changing behaviors and outcomes.
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Impact of the provision of free medications on hospital admissions for asthma in Brazil

ERS abstract: 3653

Author: Talitha Comaru

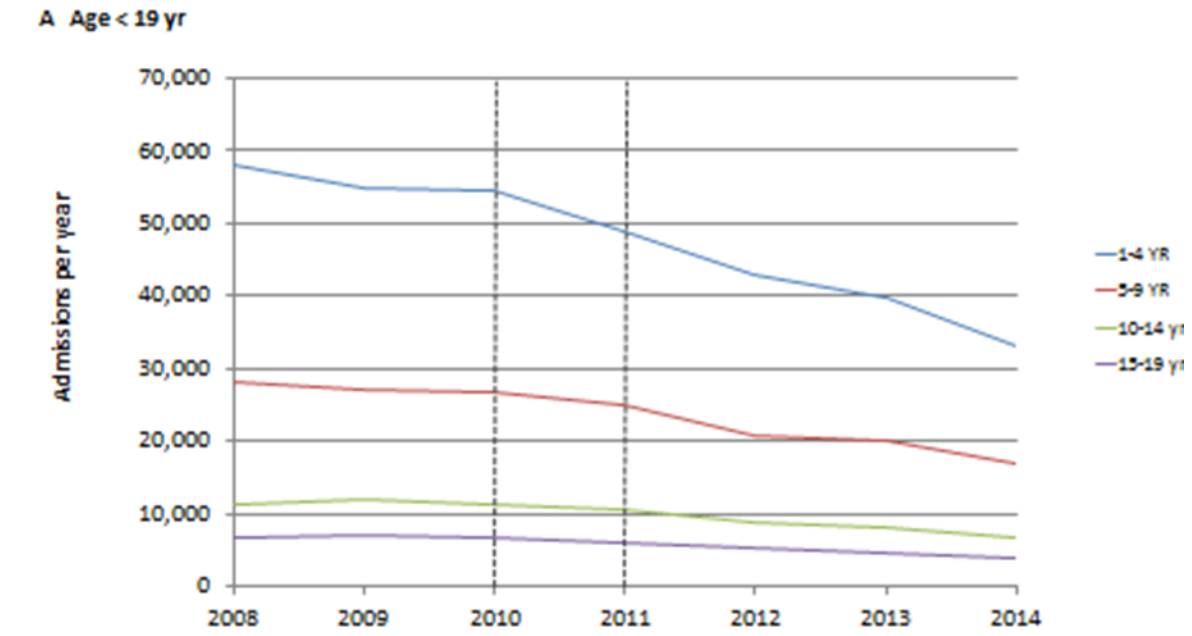
The Brazilian health system has provided asthma medicines (ex. beclomethasone), completely free of charge to patients with asthma since June 2011.

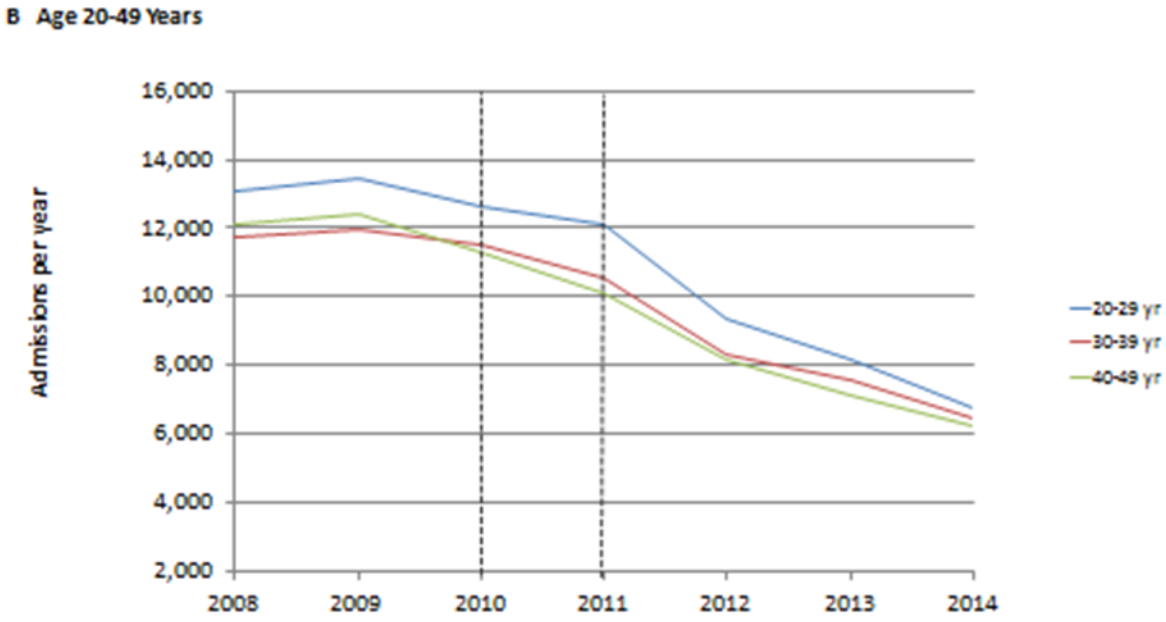
The aim of this study was to evaluate the impact of the provision of free asthma medications on hospital admissions for asthma in Brazil, using the national hospitalization database, and comparing the incidence of admission before and after the supply of these drugs.

Admissions of patients with 1 to 49 years of age by the Brazilian public health system with the diagnosis of asthma was compared pre (2008- 2010) and post (2012-2014) provision of free medicines. Number of hospital admissions due to asthma and non-respiratory diseases were obtained from DATASUS, the Brazilian government open-access public health database system.

Admission rates for asthma strongly decreased from 90.09/100.000 (2008-2010) to 59.85/100.000 (2011-2014), when the period pre and post provision of free medicines were compared. These results suggest a significant reduction of the total hospitalization for respiratory diseases [OR 0.67 (CI 0.48 to 0.92)]. Non respiratory admission rates remained stable, when both periods were compared.

Conclusion: Asthma hospitalization rates decreased significantly in the three-year period after the provision of free medicines to treat asthma, whereas the rates of non-respiratory admissions remained stable during the same period. Their analysis suggests that the provision of free medicines for asthma may result in a relevant public health impact on hospitalizations of the disease.





Editors Note:

Provision of relatively inexpensive beclomethasone to patients who cannot afford them reduces admissions and would save money to the health care system. Remember cost as a barrier to adherence in your practice!

Effect of roflumilast on exacerbations in patients with severe chronic obstructive pulmonary disease uncontrolled by combination therapy (REACT): A multicentre randomised controlled trial.

Martinez FJ et al. Lancet 2015 Feb 13*; [e-pub].*

(http://dx.doi.org/10.1016/S0140-6736(14)62410-7)

Roflumilast is a selective phosphodiesterase-4 inhibitor, which has been shown to reduce the frequency of exacerbations in patients who have chronic obstructive pulmonary disease (COPD) with severe airflow limitation (forced expiratory volume in 1 second [FEV_1] ≤50% predicted). It has been shown to reduce exacerbations in those with severe COPD and the chronic bronchitis phenotype on top of either LABAs or LAMAs. While older studies suggested an additional benefit to the anti-inflammatory effect of ICS, understandable due to the different mechanism of action, this study was performed to assess this in an RCT.

1945 patients with COPD and severe airflow obstruction were randomized to daily roflumilast (500 µg orally) or placebo and followed for 1 year. All patients had experienced >2 exacerbations during the previous year and continued their fixed dose LABA/ICS combination medications (70% of patients were taking a LAMA as well). The incidences of moderate-to-severe exacerbations that required systemic corticosteroids were 0.81 per patient-year in the roflumilast group and 0.93 per patient-year in the placebo group — a difference of borderline statistical significance. However, in a predefined sensitivity analysis using negative binomial regression, the difference was significant (14.2%, p=0.04). Researchers also noted significantly fewer exacerbations that required hospitalization (16% vs. 20%) and a roughly 50 cc (56 ml) increase from baseline FEV_1 in the roflumilast group.

Adverse events were reported by 67% of the active treatment group and 59% of placebo patients. There were more COPD exacerbations (19% vs. 15%) in the placebo group, for example, but more diarrhea, weight loss and nausea in patients on roflumilast. Withdrawal due to adverse events was more common in the roflumilast group (11% vs. 5%).

Editors Note:

This was a difficult study to randomize for, as I know from personal experience. That being said, it shows that the oral anti-inflammatory agent, roflumilast, was effective in reducing exacerbations when added to another anti-inflammatory agent, namely inhaled corticosteroids, in the subset of COPD patients for which roflumilast is approved (chronic bronchitis phenotype) and that the two anti-inflammatory drugs were safe when administered together. Side effects and cost will be two more potential barriers to adherence in a quadruple regimen therapy, but remember the high personal and societal costs that come with each AECOPD!

Different Durations of Corticosteroid Therapy for Exacerbations of Chronic Obstructive Pulmonary Disease.

Walters JA[1], Tan DJ, White CJ, Wood-Baker R.
Cochrane Database Syst Rev. 2014 Dec 10;12:CD006897. doi: 10.1002/14651858.CD006897.pub3.

Current guidelines recommend that patients with acute exacerbations of chronic obstructive pulmonary disease (COPD) should be treated with systemic corticosteroid for seven to 14 days. Being that even intermittent systemic corticosteroid use is cumulatively associated with adverse effects such as osteoporosis, hyperglycaemia and muscle weakness, this practice is of concern, especially as efficacy of longer regimens has been questioned. The Cochrane group looked at studies regarding shorter duration studies comparing less than seven to more than seven days of systemic corticosteroid treatment of adults with acute exacerbations of COPD.

Searches were carried out using the Cochrane Airways Group Specialized Register of Trials, MEDLINE and CENTRAL (Cochrane Central Register of Controlled Trials) up to June 2014 and ongoing trials registers up to July 2014. Randomized controlled trials comparing different durations of systemic corticosteroid defined as short (i.e. seven or fewer days) or longer (i.e. longer than seven days). Other interventions-bronchodilators and antibiotics-were standardized. Studies with participants requiring assisted ventilation were excluded. Standard methodological procedures as expected by The Cochrane Collaboration were utilized.

Eight studies with 582 participants met the inclusion criteria, of which five studies conducted in hospitals with 519 participants (range 28 to 296) contributed to the meta-analysis. Mean ages of study participants were 65 to 73 years, the proportion of male participants varied (58% to 84%) and COPD was classified as severe or very severe. Corticosteroid treatment was given at equivalent daily doses for three to seven days for short-duration treatment and for 10 to 15 days for longer-duration treatment. Overall they did not find any difference in treatment failure, relapse, time to next COPD exacerbation, adverse event likelihood, length of hospital stay or lung function, with all confidence intervals crossing one. A single new large non-inferiority study of 5 days of 30 mg daily drove this review, but reassured that this short duration is adequate. Of note, the studies in this review did not include people with mild or moderate COPD.

Editors Note:

It is quite reasonable for the new standard of oral steroids in AECOPD to be 30 mg per day for 5 days. Clearly individual variation may be required for certain patients, but lower doses would lessen the likelihood of adverse effects and concerns for adrenal suppression.

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