September 2012 Pulmonary Journal Club

Dr. Mathew was away this month and we reviewed 4 articles.

Kelly HW, Sternberg AL, Lescher R, Fuhlbrigge AL, Williams P, Zeiger RS, Raissy HH, Van Natta ML, Tonascia J, Strunk RC; CAMP Research Group. Effect of inhaled glucocorticoids in childhood on adult height. N Engl J Med 2012;367:904-12.
The use of inhaled glucocorticoids for persistent asthma causes a temporary reduction in growth velocity in prepubertal children but it is unclear whether the child is permanently shortened or attains a normal adult height. Starting at the age of 5 to 13 years, the participants had been randomly assigned to receive 400 µg of budesonide, 16 mg of nedocromil, or placebo daily for 4 to 6 years. The authors measured adult height in 943 of 1041 participants (90.6%). Mean adult height was 1.2 cm lower the budesonide group than in the placebo group (P = 0.001) A larger daily dose of inhaled glucocorticoid in the first 2 years was associated with a lower adult height. This article is somewhat reassuring. Although there was a reduction in adult height, the decrease was minimal and not progressive or cumulative.

Wells JM, Washko GR, Han MK, et al. Pulmonary arterial enlargement and acute exacerbations of COPD. N Engl J Med 2012;367:913-21.
Exacerbations of chronic obstructive pulmonary disease (COPD) are major causes of morbidity and mortality in COPD. Severe pulmonary hypertension is an important complication of advanced COPD and predicts acute exacerbations. The authors measured pulmonary artery enlargement, as determined by a ratio of the diameter of the pulmonary artery to the diameter of the aorta [PA:A ratio] of >1) using CT scanning. Multivariate logistic-regression analysis showed a significant association between a PA:A ratio of more than 1 and a history of severe exacerbations at the time of enrollment in the trial (odds ratio, 4.78; P<0.001). A PA:A ratio of more than 1 was also independently associated with an increased risk of future severe exacerbations in both the trial cohort (odds ratio, 3.44; P<0.001). This is useful information that is biologically logical. Although performing a CT scan solely to measure a PA:A ratio is unwarranted, detection of an increased ratio might prompt one to consider therapies that reduce exacerbations such as long-acting bronchodilators and/or chronic antibiotic therapy.

Peters-Golden M, Klinger JR, Carson SS; for the ATS Research Advocacy Committee. The case for increased funding for research in pulmonary and critical care. Am J Respir Crit Care Med. 2012;186:213-215.
With the possibility of sequestration looming and the current economic and political climate, the future funding of the National Institutes of Health (NIH) and other federal biomedical research programs are threatened. This editorial reviews NIH funding in general and allocations directed at respiratory-related research. The authors advocate that is an opportune time to expand investments

in biomedical research and that doing so makes sense from the perspectives of improving health, curtailing health care expenditures, job creation and economic growth. They further argue that current levels of allocation toward respiratory research are incommensurate with the medical, economic, and societal burden of respiratory disease in the United States. The editorial is of course self-serving which is why the fellows were asked to review it. They found the article quite convincing and agreed with the authors that research funding for pulmonary, critical care and sleep needs to be increased.

Hunt LM, Kreiner M, Brody H. The changing face of chronic illness management in primary care: a qualitative study of underlying influences and unintended outcomes. Ann Fam Med 2012;10:452-60.
Recently, there has been dramatic increase in the diagnosis and pharmaceutical management of common chronic illnesses. Using qualitative data collected in primary care clinics, the authors assessed how these trends play out in clinical care focusing on management of type 2 diabetes and hypertension. Based on interviews with 58 clinicians and 70 of their patients, and observations of 107 clinical consultations, clinicians focused on helping patients achieve test results recommended by national guidelines, and most reported combining 2 or more medications per condition to reach targets. Medication selection and management was the central focus of the consultations observed. Polypharmacy was common among patients, with more than one-half of the patients taking 5 or more medications. The authors discuss the influence of the pharmaceutical industry on guidelines and pay for performance and conclude that this results in polypharmacy, sometimes at the expense of patient well-being. Although the manuscript deals with primary care, the principles probably apply to the specialties of medicine and give a disturbing insight into the factors that influence medical decisions.

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