Intensive smoking cessation intervention reduces mortality in high-risk smokers with cardiovascular disease

Authors: Mohiuddin SM et al

Summary: The impact of different interventions on smoking cessation in 209 smokers hospitalised with acute cardiovascular disease was assessed in this study. Patients were randomised to treatment with intensive antismoking intervention (comprising a minimum of 12 weeks of behaviour modification counselling plus individualized pharmacotherapy provided at no cost to the participant) or usual care consisting of counselling and printed educational material provided prior to hospital discharge. At 24 months, rates of continuous smoking cessation amongst subjects in the intensive intervention group were 33% versus 9% in the control group (p < 0.001). There were significant reductions in hospitalisations (RRR 44%; p = 0.007) and all-cause mortality in the study group (RRR 77%; p = 0.014 vs controls). The absolute risk reduction in mortality was 9.2% (NNT 11). The authors conclude that hospitalised smokers, especially those with cardiovascular disease, should receive intensive smoking cessation interventions.

Comment: The crucial feature of this study is the implementation of the smoking cessation programme at a time when motivation is likely to be at its highest – during an admission for acute coronary syndrome or heart failure. If these findings are extrapolated to other acute medical conditions, it is likely that a similar opportunity may exist for smokers admitted for acute respiratory conditions, such as pneumonia or exacerbations of COPD.

Reference: Chest. 2007; 131:446-52
Prevalence of viral respiratory tract infections in children with asthma

Authors: Khetsuriani N et al

Summary: The aim of this case control study was to assess the contribution of respiratory viruses to asthma exacerbations in children aged 2 to 17 years. Cases with asthma exacerbations (n = 65) were matched with subjects with well-controlled asthma (n = 77). Respiratory specimens were analysed by PCR to determine the presence or absence of respiratory viruses including rhinoviruses, enteroviruses, respiratory syncytial virus, human metapneumovirus, coronaviruses 229E and OC43, parainfluenza viruses 1 to 3, influenza viruses, adenoviruses, and human bocavirus. Rhinovirus was the most prevalent infection, occurring in 60% of cases and 18.2% of controls. Asthma exacerbations were associated with respiratory viral infections overall (OR 5.6; 95% CI 2.7-11.6) and rhinovirus infection (OR 6.8; 95% CI 3.2-14.5). The prevalence of asymptomatic rhinovirus infection was similar in both cases (29.2%) and controls (2.34%; p > 0.05). In conclusion the authors suggest that symptomatic rhinovirus infections contribute significantly to asthma exacerbations in children.

Comment: Further evidence that rhinovirus infections are the most common cause of exacerbations of asthma in children. The development of safe and effective drugs against rhinovirus represents a priority to reduce the frequency and severity of asthma exacerbations and associated risk of mortality.

http://www.jacionline.org/article/PIIS0091674906021294/abstract

Role of pleural viscosity in the differential diagnosis of exudative pleural effusion

Authors: Yetkin O et al

Summary: In this prospective study, the viscosity of pleural exudative effusions was examined in an attempt to discriminate between various different aetiologies. Measurements of pleural fluid and plasma viscosity were performed on samples from 70 consecutive patients with exudative pleural effusion due to pneumonia, tuberculous pleurisy and lung cancer. Pleural viscosity ≥1.57 predicted tuberculous pleurisy (sensitivity 100%, specificity 95%) and pleural viscosity <1.39 predicted lung cancer (sensitivity 100%, specificity 94%). There were significant associations between pleural viscosity and pleural albumin, protein and plasma viscosity. The authors concluded that there were significant differences between pleural effusions of different etiologies, with tuberculous effusions having the highest viscosity, and malignant effusions from lung cancer the lowest.

Comment: Intriguing study of the use of pleural viscosity to help determine the cause of exudative pleural effusions. Pleural viscosity can be measured quickly and cheaply and if these findings are validated in larger studies then it may well become one of the standard methods of assessment of pleural effusions.

Reference: Respirology. 2007; 12:267-71

LABAs plus ICS versus ICS for asthma control and exacerbations

Authors: Gibson PG et al

Summary: This systematic review assessed the efficacy and safety of adding LABAs to ICS versus various different ICS strategies, using data from relevant Cochrane systematic reviews. Outcomes including asthma exacerbations, asthma control, and adverse effects. Adding LABA to ICS significantly reduced exacerbations vs a similar ICS dose alone (NNT 18), but was not more effective than a higher ICS dose, or a similar ICS dose in steroid-naïve patients. Asthma control was significantly improved with LABA added to ICS compared to all three ICS groups. There was a significantly increased risk of tremor with LABA added to ICS as initial therapy (NNH 21) and versus higher ICS doses (NNH 74). In conclusion, the authors found that; “The greatest benefit and least harm of LABAs comes when they are added to a similar ICS dose in adults with symptomatic asthma.”

Comment: A novel approach utilising a composite measure of asthma control in addition to exacerbations. The greatest benefits with LABA therapy and asthma appear to occur when given to a patient already on ICS therapy. This study does not support the preferential use of LABA/ICS therapy in steroid naïve patients.

http://www.jacionline.org/article/PIIS0091674906030259/abstract
Imaging in the diagnosis and treatment of non-small cell lung cancer

**Authors:** Hicks RJ et al

**Summary:** The authors of this review discuss the benefits of different techniques for diagnosing and staging lung cancer patients. Their focus is on non-invasive techniques (including CT and PET) and minimally invasive techniques (endoscopic approaches) as opposed to invasive (surgical) approaches. For patients with non-small cell lung cancer who would be considered for treatment with curative intent, tests with a high sensitivity and specificity for detection of both systemic metastases and mediastinal nodal involvement are required. The standard of care with regard to diagnosis and staging is now combined PET/CT (using fluorine-18 fluorodeoxyglucose). Nodal abnormalities can be further evaluated (including obtaining pathological samples) using endoscopic endobronchial ultrasound. In patients requiring surgical resection, diagnostic CT may also have an important role. Diagnostic CT may also be useful as the initial investigation in patients who would not be considered for curative treatment on medical grounds.

**Comment:** Please see Yasufuku study, adjacent to the right.

**Reference:** Respirology. 2007; 12:165-172

PMID: 17298447

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The pre-test probability of lung cancer in patients with solitary pulmonary nodules

**Authors:** Gould MK et al

**Summary:** Multiple logistic regression analysis was used to identify independent clinical predictors of malignancy and to develop a clinical prediction model to estimate pre-test probability of malignancy. Data were obtained from a sample of 375 veterans (mean age 65.9 years) with solitary pulmonary nodules (SPNs) and a malignancy rate of 54%. Most study subjects were previous (n = 177) or current (n = 177 smokers). The risk of malignancy was predicted by positive smoking history (OR 7.9), older age (OR 2.2 per 10-year increment), larger nodule diameter (OR 1.1 per 1mm increment), and time since smoking cessation (OR 0.6 per 10-year increment). The accuracy of the clinical prediction model was good, and the authors suggest that its use may facilitate clinical decision making, for example with regard to selecting and interpreting the results of diagnostic tests such as PET imaging.

**Comment:** The Bayesian approach of first determining the pretest probability to enable interpretation of the results of subsequent diagnostic tests, and then the use of decision analysis to determine the preferred therapeutic intervention. This approach is well established in respiratory medicine, particularly pulmonary embolism (the article by Perrier and Junod, Respiratory Medicine 1995; 89: 241-51 is well worth reading). This approach to determine the pre-test probability of malignancy in patients with solitary pulmonary nodules can be recommended in clinical practice.

http://www.chestjournal.org/cgi/content/abstract/131/2/383

**Reference:** Chest. 2007; 131:383-8

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Independent commentary by Professor Richard Beasley

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Cost-effectiveness of pneumococcal conjugate vaccination for prevention of child mortality

Authors: Sinha A et al

Summary: A decision analysis model was used to provide an economic analysis comparing pneumococcal vaccination of infants to no vaccination in the 72 developing countries eligible for financial support from the Global Alliance for Vaccines & Immunization as of 2005. Estimates of child mortality, effectiveness of vaccination, and immunisation rates were calculated using both published and unpublished data. In children aged 3 to 29 months, vaccination was estimated to prevent 262,000 deaths each year (7%) across the countries studied. This would prevent 8.34 million disability-adjusted life years (DALYs) each year. The cost of vaccination would be $838 million ($5 per dose) ie approximately $100 per DALY averted. In 68 of 72 countries this would be highly cost effective.

Comment: The economic and public health argument for purchasing the pneumococcal conjugate vaccine in the developing world is compelling. This must represent a priority for the Asia/Pacific region, and respiratory physicians need to provide the advocacy to ensure its availability.

http://www.thelancet.com/journals/lancet/article/PIIS014067607601950/abstract

Reference: Lancet. 2007; 369:389-96

Patterns of community-acquired pneumonia (CAP) in hospitalized Singaporean children

Authors: Chiang WC et al

Summary: This retrospective study aimed to examine the clinical characteristics, complications, spectrum of pathogens and patterns of antimicrobial resistance associated with hospitalized cases of childhood CAP in Singapore. 1,702 children, median age 4.2 years were studied over a period of 3 years. Causative pathogens included Mycoplasma pneumoniae (20.3%), typical respiratory bacteria (10.3%; 64.6% Streptococcus pneumoniae; 21.7% non-typeable Haemophilus influenzae), viruses (5.5%) and mixed bacterial/viral infections (2%). Most M. pneumoniae infections occurred in school-age children. Significantly greater mortality was observed with typical bacterial infections (8.9%) versus M. pneumoniae (0.3%) and viral pneumonias (0%) (p < 0.001). Resistance to aminopenicillins was documented in over 50% of S. pneumoniae and H. influenzae, especially when weight exceed the benefits.

http://thorax.bmj.com/cgi/content/abstract/62/3/270


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