



## What's hot that the other lot got

Simon Rolin

### DOMICILIARY NIV IN SEVERE STABLE COPD

A great deal of evidence exists supporting the use of in-hospital non-invasive ventilation (NIV) for acute exacerbations of COPD resulting in hypercapnic respiratory failure. However, the evidence is weak for the ability of long term NIV to improve outcomes in patients with stable hypercapnic COPD. This prospective, multicentre, randomised, controlled trial (*Lancet Respir Med* 2014. doi:10.1016/S2213-2600(14)70153-5) enrolled patients with stable severe COPD and a PaCO<sub>2</sub> of 7 kPa or higher and pH higher than 7.35. NIV was targeted to reduce baseline PaCO<sub>2</sub> by at least 20%, or to achieve PaCO<sub>2</sub> value of <6.5 kPa. Results showed a substantial improvement in the primary outcome. One-year mortality in the NIV group was 12% versus 33% in the control group; HR 0.24 (95% CI 0.11 to 0.49; p=0.0004). For patients with advanced, stable, hypercapnic COPD, the addition of long-term NIV targeted to markedly reduce hypercapnia to standard treatment, improves survival.

### ODOURS AS TRIGGERS OF ASTHMA

Many patients with asthma will try to avoid odours that may act as a trigger for an exacerbation of their symptoms. This study aimed to investigate how the belief that an odour is potentially harmful could affect the physiological and psychological responses of asthmatics (*Journal of Psychosomatic Research* 2104. doi:10.1016/j.jpsychores.2014.07.002). 17 individuals with moderate-persistent asthma were exposed to a fragrance with no associated physiological irritant qualities. 8 of the subjects were told that the odour had potential therapeutic properties, while 9 were told it could potentially cause mild respiratory problems. The introduction of a negative bias led that group to rate the odour as more irritating and annoying, but also increased reported levels of asthma symptoms and a rapid change in markers of airway inflammation.

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This response lasted for over 24 h. There was no increase of inflammation when the odour was characterised as therapeutic.

### PRISON TOBACCO CONTROL POLICIES AND DEATHS FROM SMOKING IN US PRISONS

Previous studies have shown a high prevalence of tobacco use among prisoners which traditionally has been allowed to continue in a largely non-regulated fashion. This population-based retrospective study (*BMJ* 2014;349:g4542) aimed to determine the mortality attributable to smoking among prisoners in the USA and whether bans on smoking in prisons are associated with reductions in smoking-related deaths. The age-adjusted, smoking-attributable mortality and years of potential life lost rates were 360 and 5149 per 100 000, respectively. These figures are higher than the rates in the general US population. Prisons that implemented smoking bans had a 9% reduction in smoking-related deaths. Bans in place for longer than 9 years were associated with reductions in cancer mortality.

### PNEUMOCYSTIS JIROVECI PNEUMONIA IN HIV-NEGATIVE GROUPS

Despite available effective prophylaxis, pneumocystosis still occurs in HIV-negative immunocompromised patients and is associated with high mortality rates. This retrospective study (*Am J Med* 2014;pii: S0002-9343(14)00590-7) analysed all cases of documented pneumocystosis in HIV-negative patients admitted to a referral centre over a 20-year period. Estimate incidence rates were ranked in three categories: (1) high risk (>45 cases per 100 000 patient-year): polyarteritis nodosa, granulomatosis with polyangiitis, polymyositis, dermatomyositis, acute leukaemia, chronic lymphocytic leukaemia and non-Hodgkin lymphoma; (2) intermediate risk: (25–45 cases per 100 000 patient-year): Waldenstrom macroglobulinaemia, multiple myeloma and central nervous system cancer and (3) low risk (<25 cases per 100 000 patient-year): other solid tumours, inflammatory diseases and Hodgkin lymphoma. Targeting pneumocystosis prophylaxis in the groups most at risk may help to reduce the rate of *Pneumocystis jiroveci* pneumonia.

### CLINICALLY UNEXPECTED NON-TUBERCULOUS MYCOBACTERIAL INFECTION IN SEVERE COPD

This retrospective study (*BMC Pulmonary Medicine* 2014;14:124) examined the histology of 126 consecutive patients undergoing lung volume reduction surgery for severe COPD with no prior clinical indicators or suspicion of mycobacterial disease. 92% of patients had at least one other histological diagnosis in addition to emphysema. 10% of specimens had histological evidence of NTM infection, with mycobacteria only identified in those patients with necrotising granulomas. In this study, the patients with evidence of NTM infection had a significantly lower preoperative FEV<sub>1</sub> and TLCO and higher exacerbation rates. These results show that a proportion of patients with end-stage COPD requiring surgical treatment had evidence of infection with NTM despite a lack of clinical and radiological suspicion. This should be considered and cultures obtained, especially if long-term prophylactic macrolide therapy is planned.

### PREOPERATIVE FORCED VITAL CAPACITY PREDICTS LONG-TERM SURVIVAL FOR RESECTED NSCLC

Surgical resection remains the treatment of choice for anatomically resectable non-small cell lung cancer (NSCLC). This group from China conducted a retrospective study in 470 consecutive patients with NSCLC who underwent curative lung resection to identify better lung function parameters associated with improved postoperative long-term survival (*Med Oncol* 2014;31:146. doi:10.1007/s12032-014-0146-x). Median survival time was 60 months. In multivariate analysis, FVC (HR 2.029; 95% CI 1.126 to 3.659; p=0.019) was found to be an independent prognostic predictor of long-term overall survival. For cancer-specific survival, FVC (HR 2.404; 95% CI 1.300 to 4.445; p=0.005) was also found to be an independent prognostic predictor in multivariate analysis. This study shows that preoperative FVC, is an independent prognostic predictor of long-term survival after curative resection of NSCLC and can be used by surgeons to best inform patients prior to surgery.

**Competing interests** None.

**Provenance and peer review** Not commissioned; internally peer reviewed.



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**To cite** Rolin S. *Thorax* 2014;69:971.

*Thorax* 2014;69:971.  
doi:10.1136/thoraxjnl-2014-206165