



What's hot that the other lot got

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SCREENING IN COMMUNITY DRUG SERVICES: WHERE THERE IS SMOKE, THERE IS COPD

Heroin smoking, rather than injection, has become more prevalent over the last 30 years. Drug smokers have a significant burden of respiratory morbidity with higher hospital admission rates compared with the general chronic obstructive pulmonary disease (COPD) population; this may in part be due to limited engagement with conventional health services. Burhan and colleagues (*Chest* 2018; doi: 10.1016/j.chest.2018.08.1049) performed a cross-sectional study in Liverpool to investigate the prevalence and severity of COPD in this population, and the acceptability of attaching COPD screening services to community specialist drug services. Of the 1082 patients approached to participate, 753 completed the full assessment, 70% had some form of airways disease, with 260 (35%), 155 (21%) and 112 (15%) found to have COPD, asthma and asthma-COPD overlap, respectively. Interestingly, around half of participants who had reported a previous COPD diagnosis did not have evidence of irreversible obstructive spirometry, reiterating the importance of objective assessment of respiratory disease, even in a high-risk population. Longer duration, rather than quantity per se, of tobacco and illicit drug inhalation were associated with increased risk of COPD. Screening was acceptable to patients with 92% of participants happy with the service and for further health appointments to be organised concurrently with drug key worker sessions. The data highlight an unmet need but further work is required on potential long-term benefits of intervention in this patient group.

MORE TO CT IMAGE ASSESSMENT IN IPF THAN MEETS THE EYE

The availability of effective disease-modifying therapies for idiopathic pulmonary fibrosis (IPF) remains limited with challenges conducting trials of sufficient size and power in

this rare disease. Quantitative CT imaging is a potential solution to improve mortality prediction and enrich clinical trial cohorts. Jacob *et al* (*Am J Respir Crit Care Med* 2018;198:767–776) assessed the utility of computer-generated CT scoring of vessel-related structures (VRS), a pathological IPF hallmark not wholly amenable to visual CT analysis, as a potential biomarker to assist in predicting patient outcomes. Quantification of VRS using Computer-Aided Lung Informatics for Pathology Evaluation and Rating software, CAL-VRS, was pitted against conventional pulmonary function testing, visual CT assessment and composite clinical-physiological indices to predict 10% FVC decline and mortality at 12 months. CAL-VRS outperformed conventional measures as predictors across different disease severities. Notably, the effect size was augmented in those with less extensive disease. In addition, the CAL-VRS identified patients with an apparent enhanced response to antifibrotic treatments, offering the potential to assist with patient-clinician decision making in this area and rationalising expensive drug therapy. With careful implementation, the score may enable more rapid and cost-effective drug trials in IPF.

VACCINE-BASED PREVENTION OF ACTIVE TB IN LATENT DISEASE

Mycobacterium tuberculosis (mTB) remains a major cause of morbidity and mortality worldwide. Latent TB infection provides a pool of potential pulmonary TB that contributes to ongoing mTB transmission. Vaccination with BCG provides limited efficacy in preventing pulmonary TB, and therefore, strategies to target this population to reduce conversion from latent to active infection are key to reducing global disease burden. Der Meeren *et al* (*N Engl J Med* 2018;379:1621–1633) present a randomised, double-blind study assessing the efficacy of a novel vaccine, M72/AS01_E, in preventing pulmonary disease in HIV-negative adults with latent tuberculosis aged 29±8 years old. Participants from Kenya, South Africa and Zambia were randomised to receive two doses of the M72/AS01_E (n=1787) or placebo (n=1788) 2 months apart. Patients underwent active surveillance for pulmonary TB by the research team with subsequent diagnostic and treatment from local care teams. Pulmonary TB was confirmed by sputum PCR or culture. Ten cases of pulmonary TB were

diagnosed in the vaccine group and 22 cases in the placebo group; overall, the vaccine provided 54% protection (95% CI 9.7 to 79.5; p=0.03) against progression to active pulmonary disease in adults with latent TB. The vaccine was well tolerated with a similar adverse event rate as placebo (1.6% vs 1.8%, respectively). Subpopulation analysis indicated possible variation in efficacy with age and gender requiring further investigation.

ROLE OF NEBULISED HYPERTONIC SALINE IN CYSTIC FIBROSIS

The role of nebulised hypertonic saline (HS) in the secretion management of patients with cystic fibrosis (CF) is uncertain. Wark *et al* (*Cochrane Database of Systematic Reviews* 2018(9): CD001506. doi: 10.1002/14651858.CD001506.pub4) produced an updated Cochrane Review including 17 trials (966 participants, aged 4 months–63 years). It found that in adults and children over 12 years with CF, regular use of nebulised HS had a small positive effect on lung function at 4 weeks (mean difference (MD) ΔFEV₁ between normal and HS 3.44%, 95% CI 0.7% to 6.2%; very low-quality evidence from three trials), but this was not sustained at 48 weeks (low-quality evidence from one trial). Nebulised HS reduced the frequency of pulmonary exacerbations needing intravenous antibiotics over 12 months (MD 0.5, 95% CI 0.1 to 0.8 fewer exacerbations per patient per year; trial evidence in patients aged >6 years only) but no difference in hospitalisation rates. One small cross-over trial in children compared HS with daily rhDNase and showed that rhDNase led to better lung function at 3 months (ΔFEV₁ MD 8%, 95% CI 2% to 14%; very low-quality evidence) with no differences in any secondary outcomes. The authors suggest that nebulised HS can be considered to assist secretion management in children and adults with CF. Specifically, in older children and adults with CF, it may reduce exacerbations and improve quality of life; however, there are limited data on frequency of adverse events.

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