What's hot that the other lot got

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THE USE OF ROSE DOES NOT IMPROVE DIAGNOSTIC YIELD IN TBNA

Having rapid onsite cytological evaluation (ROSE) present on endobronchial ultrasound (EBUS) or conventional transbronchial needle aspiration (TBNA) should, in theory, reduce the number of needle passes required for diagnosis, procedure time and complication rates. In some smaller studies, ROSE has been shown to increase diagnostic yield. However, the cost of ROSE has limited its clinical use.

The systematic review by Sehgal *et al* (*Chest*. doi:10.1016/j.chest.2017.11.004) looked at five good-quality but heterogeneous randomised control trials examining ROSE in EBUS-TBNA and conventional TBNA to ascertain the effect of ROSE on procedure time and quality. The studies were looking at TBNA in suspected cancer, sarcoidosis and lymphadenopathy of unknown cause. While overall diagnostic yield, complication rate and procedure time were unaffected, there was a reduction in the need for additional procedures when ROSE was added to TBNA. However, this only translated to a reduction in complications in conventional TBNA but not EBUS-TBNA. The lack of a clear diagnostic benefit argues against the blanket use of ROSE in TBNA, but the authors suggested its targeted use in multimorbid patients to reduce complication rates.

HIGH SPUTUM EOSINOPHIL CONCENTRATION IS ASSOCIATED WITH A SEVERE COPD PHENOTYPE

High sputum and blood eosinophils in patients with COPD are associated with increased frequency of exacerbations, reduced lung function and responsiveness to steroids. Hastie and colleagues (*Lancet Respir Med* 2017;5:956–67) assessed the relationship between blood

and sputum eosinophilia and markers of disease severity in patients with COPD.

Data from the SPIROMICS cohort were used to identify 2499 patients with blood eosinophil counts, which were stratified into high ($n=1237$; eosinophil ≥ 200 cells/ μ L) and low ($n=1262$; eosinophil < 200 cells/ μ L) groups. A subset of 827 patients with sputum eosinophil counts available were stratified into high ($n=171$; $\geq 1.25\%$) and low ($n=656$; $< 1.25\%$) groups for analysis. When compared with the low sputum eosinophil group, the high sputum eosinophil group had worse markers of disease severity, indicated by significantly lower median FEV₁ (65.7% (IQR 51.8–81.3) vs 75.7% (59.3–90.2), $P<0.0001$), higher CT measures of emphysema and air trapping, and more exacerbations requiring corticosteroid treatment ($P=0.002$). A weaker relationship was demonstrated in FEV₁ percentage predicted between low and high blood eosinophil groups than that observed between the sputum groups. Furthermore the high blood eosinophil group had no evidence of an association with COPD exacerbations ($P=0.35$), emphysema measured by CT density, body mass index or Global Initiative for Chronic Obstructive Lung Disease stage. The authors conclude that high concentrations of sputum eosinophils are a better biomarker than blood eosinophils to identify a COPD patient subgroup with more severe disease. Blood eosinophils alone were not a reliable biomarker for COPD severity or exacerbations. Measuring sputum eosinophil counts may help guide prognosis and treatment options in patients with COPD.

WHEN A 2-HOUR WALK IS NOT SO HEALTHY

The negative effects of chronic exposure to air pollution on lung function and existing lung disease are well described. Sinharay *et al* (*Lancet*. doi:10.1016/S0140-6736(17)32643-0) sought to study the effect of very short exposure (2 hours) to high air pollution on patients with COPD

and ischaemic heart disease. Forty healthy volunteers and 40 patients with stable COPD and 39 with stable ischaemic heart disease were recruited. Patients took a 2-hour walk down Oxford Street, London, an area with high air pollution, or through Hyde Park, an area with low air pollution. They did the walk at the alternate site 3–8 weeks later in a randomised order. Markers of air pollution (such as NO₂, fine particles, PM_{2.5} and PM₁₀) were measured on the day of the walks, and symptoms and lung function parameters were assessed before and after the walk. Symptoms such as cough, sputum and wheeze were measured on a 0–4 scale. Unsurprisingly, measures of air pollution were significantly higher on Oxford Street compared with Hyde Park. Participants with COPD reported significantly higher scores on cough, sputum, shortness of breath and wheeze after walking down Oxford Street compared with Hyde Park, with no corresponding change in symptoms in healthy volunteers. In the healthy volunteers, FEV₁ increased within 1 hour of walking in Hyde Park (mean 7.6% rise, 95% CI 5% to 10%), which remained significantly increased at 26 hours (mean 3.6%, 95% CI 1% to 6%). While improvements in lung function also occurred when walking along Oxford Street, this was significantly lower than walking in Hyde Park. In participants with COPD there were similar increases in FEV₁ while walking in Hyde Park and on Oxford Street, but the increase was less than that in the healthy volunteers. There was no significant difference in FEV₁ in patients with COPD between Oxford Street and Hyde Park after the walk. It appears that the benefits of walking on respiratory health are attenuated if done in an area of high air pollution. This may have an impact on patients living in inner city areas who wish to increase their exercise for health reasons.

Competing interests None declared.

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