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Highlights from this issue

doi:10.1136/thoraxjnl-2015-208244

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POUR YOURSELF A CUP OF AMBITION...

Although Dolly Parton may not have been part of the AMBITION trial team, Nathan and Corris eloquently discuss the outcome of this trial, which could signify a novel treatment approach for pulmonary hypertension (*see page 107*). This study was the first to compare upfront combination therapy in patients not previously treated for pulmonary artery hypertension comparing ambrisentan and tadalafil against ambrisentan or tadalafil monotherapy. Indeed, this trial showed the combination therapy was superior to either of the monotherapy treatments and was relevant to both the clinician and the patient as the time to event composite primary endpoint of either death, hospitalisation for worsening PAH or disease progression was greater with the combination therapy. This trial may change clinical practice in PAH in an important and meaningful way.

STAYING ALIVE...

The survival data following a lung cancer diagnosis are a major disappointment to the respiratory and cancer communities and something has to change dramatically to give patients with lung cancer the sort of optimism that other cancer diagnoses are able to provide in the 21st century. In this issue of *Thorax* the UK Respiratory Community has come together to undertake detailed evaluation of screening high-risk individuals for lung cancer in the UKLS study (*see page 161*). The results are extremely encouraging and suggest that CT screening can identify potentially curative cancers in over 80% of cases with a QALY of just over £8000 per patient, a bargain at twice the price! Early diagnosis and treatment of lung cancer is a key step in improving the appalling survival statistics for lung cancer number and increases the chances of patients staying alive with this diagnosis.

... BUT YOU MUST AVOID SATURDAY NIGHT FEVER

Screening for lung cancer can only work if 'curative' therapy is effective, which for lung cancer is primarily surgical. Surgery has come a long way since Monkwell Street in the Middle Ages, not least because surgeons will no longer give you a haircut, however post-operative complications remain a major determinant of outcome. Lugg and colleagues highlight that surgery affects not just short

term outcomes but long term morbidity and mortality as well (*see page 171*). Whilst it might not be surprising that post operative complications increase short-term mortality, length of stay and ITU requirements, they also increase readmission rates and even accounting for short term mortality reduce long term survival by 6 months. Smoking and COPD were identified as independent risk factors for poorer outcomes. So will greater pre-operative attention to smoking cessation and COPD optimisation reduce the risk of post-operative Saturday Night Fever? Sounds like a trial for the Curry investigators!

TOOLS TO MONITOR DISEASE STATUS, RESPONSE TO TREATMENT AND OUTCOMES IN COPD...

Pulmonary matrix metalloproteases (MMPs) are important drivers in the pathogenesis of COPD, possibly resulting in the early development of airflow obstruction. Ostridge *et al* investigated the relationship of MMPs and cross-sectional high resolution CT imaging to define emphysema and small airways disease in COPD patients (*see page 126*). MMP-3, -7 and -10 were shown to be directly associated with gas trapping and small airways disease and this could signify both a new treatment strategy as well as a different method of monitoring molecular mechanisms in COPD. A much simpler approach to monitoring response to treatment would be measuring blood eosinophil levels. Pavord *et al* report a review of the studies of combined inhaled corticosteroid and long acting β -agonist (ICS/LABA) in the treatment of COPD patients with blood eosinophil levels above 2% in order to predict exacerbation frequency (*see page 118*). Although only three studies met the inclusion criteria (INSPIRE, TRISTAN and SCO30002), a baseline blood eosinophil level above 2% in patients treated with an ICS/LABA combination was associated with a reduction in exacerbation frequency, albeit there was no relationship with the spirometric severity of airways disease or health related quality of life. If blood eosinophil levels can guide the clinician in terms of exacerbation frequency and responders to ICS/LABA treatment, the internal and external validation of the DECAF score (dyspnoea, eosinopenia, CXR consolidation, acidaemia and atrial fibrillation) will add a useful tool for the clinician to use during hospital admission to predict mortality (*see page 133*). For this validation study,

1725 COPD patients admitted to hospital with an acute exacerbation were recruited with an inpatient mortality of 7.7% and Echevarria *et al* have shown the DECAF score was superior to the other prognostic scores for in-hospital or 30-day mortality. Clinicians should be aware that patient with a DECAF score above 3 are at high risk of death and discussion with the patient and their relatives focussed on escalation of care and palliative care support are of paramount importance.

IT IS TIME TO START PERSONALISING THE APPROACH TO TREATING OSA...

This current methods of diagnosing obstructive sleep apnoea are expensive and time consuming and provide the clinician with limited information on the phenotype of the patient or adherence to treatment. Schwarz *et al* investigated the exhaled breath profile of patients with OSA (*see page 110*). This was a randomised trial of CPAP treatment withdrawal to establish the change in exhaled molecular breath pattern. Unsurprisingly, the patients who had CPAP treatment withdrawn had a recurrence of OSA and after 2 weeks without treatment the exhaled breath condensate differed in 62 features, including 16 metabolites with a high sensitivity and specificity. This approach of breath profiling in OSA would be useful in both screening for OSA as well as monitoring the adherence to treatment, which is a major issue that needs further focus.

A SPOONFUL OF SALT HELPS THE MEDICINE GO DOWN

Salt has been the source of barter and controversy since through the ages, from the 'salaried' Roman Legionnaires paid in salt, through the naming of places such as Norwich, Sandwich, Nantwich and other great salt producing centres to the recent realisation the salt promotes hypertension. The use of extra salt in saline nebulisers may not raise peoples blood pressure quite as much as discussions adding salt to crisps but it is never-the-less a controversial issue. In this issue of *Thorax* Dentice and colleagues describe the benefits of hypertonic saline nebulisers (*see page 141* Editors' choice). Whilst they may not reduce readmission or significantly alter length of stay, they made people feel better and lead to improvements in lung function. Could Mary Poppins have been wrong all along?