What's hot that the other lot got

Kathryn Prior

EPIDEMIOLOGY OF ARDS

LUNG SAFE study was an international, multi-centre, prospective cohort study of patients undergoing invasive or non-invasive ventilation who were admitted to 459 intensive care units (ICU) for 4 consecutive weeks in the northern hemisphere winter of 2014 in 50 countries (doi: 10.1001/jama.2016.0291). The primary outcome was the proportion of admissions diagnosed with acute respiratory distress syndrome (ARDS). The secondary outcomes were assessment of clinician recognition of ARDS, what ventilatory management was used, and clinical outcomes. Of 29 144 patients admitted, 3022 (10.4%) had ARDS, 2377 were managed with mechanical ventilation which was 23.4% of those ventilated on ICU during this period. The prevalence of mild ARDS was 30.0%, moderate 46.6% and severe 23.4%. When the clinician recognised ARDS this was associated with higher positive end expiratory pressure ventilation, greater use of neuromuscular blockade, and prone positioning. Hospital mortality was 34.9% for those with mild, 40.3% for those with moderate, and 46.1% for those with severe ARDS.

CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

Life with chronic thromboembolic pulmonary hypertension has changed over the years, however what are the current survival rates? A European registry looked at this in 679 newly diagnosed patients who were prospectively included (doi:10.1161/CIRCULATIONAHA.115.016522). Estimated survival at 1, 2 and 3 years was 93%, 91% and 89% in operated patients (n=404), and only 88%, 79% and 70% in non-operated patients (n=275). In both groups, targeted pulmonary hypertension therapy did not alter survival. Mortality correlated with severity of disease as measured by New York Heart Association Classification, increased right atrial pressure and history of cancer. This indicates that the outcomes for those who are operated on are excellent.

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MORTALITY AND ILD ON CT

Four large cohort studies (the Framingham Heart Study (FHS) AGES-Reykjavik study, COPDGene Study and the Evaluation of COPD longitudinally to Identify Predictive Surrogate Endpoints (ECLIPSE)) were examined to see if those with interstitial changes on CT scan had increased all-cause mortality (doi: 10.1001/jama.2016.0518). The rate of lung interstitial change on CT scan was between 7% and 9% on all four of the studies. Over between 3 and 9 years there was a greater absolute rate of mortality among those with interstitial lung changes. By cohort these were: 7% vs 1% in FHS (6% difference (95% CI 2% to 10%)), 56% vs 33% in AGES-Reykjavik (23% difference (95% CI 18% to 28%)) and 11% vs 5% in ECLIPSE (6% difference (95% CI 1% to 11%)). In the AGES-Reykjavik cohort the cause of mortality was analysed and the higher rate of mortality was attributed to death due to respiratory disease.

ANOTHER ANTIFUNGAL ON THE BLOCK

Isavuconazole is a new triazole that has broad-spectrum antifungal activity. A double-blind comparative-group study of 527 patients was carried out comparing isavuconazole 375 mg with voriconazole in patients with active malignant disease or allogeneic haemopoietic stem cell transplantation with invasive mould disease (http://dx.doi.org/10.1016/S0140-6736(15)01159-9). The study tested the non-inferiority end point of all-cause mortality of isavuconazole. All-cause mortality was 19% with isavuconazole (48 patients) and 20% with voriconazole (52 patients). Most patients receiving either drug had adverse events (247 (96%) receiving isavuconazole and 255 (98%) receiving voriconazole). Proportions of adverse events were similar for each organ system. Isavuconazole patients had a lower incidence of hepatobiliary (9% vs 16%, $p=0.016$), eye (15% vs 27%, $p=0.02$) and skin disorders (33% vs 42%, $p=0.037$). Adverse events related to the drugs were reported in 42% of those receiving isavuconazole and 60% of those receiving voriconazole.

CENTRAL AIRWAY COLLAPSE IN SMOKERS

Central airway collapse of greater than 50% of luminal area in exhalation is known as expiratory central airway collapse (ECAC) and is associated with smoking, but what is its significance? Paired inspiratory and expiratory CT scans for both non and current smokers were compared (doi: 10.1001/jama.2015.19431). Those who had greater than 50% reduction in cross-sectional area were included. They were then compared for respiratory quality of life. Secondary outcomes were dyspnoea, 6 min walk and exacerbation frequency. The prevalence of ECAC was 5% of the study population. Those with ECAC had worse quality of life scores ($p<0.01$). There was no difference in the 6 min walk. However, after multiple adjustments, those with ECAC had an increase in frequency of total exacerbations and severe exacerbations requiring hospitalisation.

COCHRANE NEWSFLASH

A suite of four recent Cochrane reviews has assessed the role of tiotropium in asthma. The reviews suggest it reduces the need for rescue oral steroids as an add-on for people who remain symptomatic on long acting beta agonist (LABA) plus inhaled corticosteroid (ICS), which is the licensed indication. It also has benefits as an add-on for people who are symptomatic on ICS monotherapy, but the evidence is not strong enough to support choosing tiotropium over LABA as first choice of add-on. There remains a lot of uncertainty, particularly regarding its effect on admissions and serious adverse events.

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