

Commentary

Paper reports overview: The many guises of respiratory support, microalbuminuria and delirium

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The last few months have seen a variety of important and thought provoking studies published.

Respiratory medicine

February saw the publication of the large scale Australian ALI/ARDS epidemiology study [1] which found an incidence of ~30 cases per 100,000 population per annum and a 28 day mortality of ~30%, larger and smaller respectively than previous studies. Two closely related studies of randomly variable tidal volume ventilation in animal models of ARDS both reported positive findings in terms of gas exchange for this "re-discovered" ventilatory strategy [2, 3], and discuss their findings in light of the success of the low tidal volume strategy of ARDSnet fame [4]. Basic research has also thrown light onto the phenomenon of diaphragm dysfunction in sepsis and the protective effects of mechanical ventilation [5]. In the clinical arena, a large observational study of non-invasive ventilation (NIV) has produced a useful set of predictors of failure of this intervention (see paper report) [6]; in addition the BTS guidelines for NIV have just been published [7]. The enthusiasm for D-dimer quantitation to exclude the diagnosis of pulmonary embolism is likely to receive modification in light of the study by De Monyé et al [8], who have eloquently demonstrated the limitations of using this as the sole test to exclude smaller, subsegmental emboli. In paediatric practice, Martín-Torres and colleagues have demonstrated the effectiveness of employing heliox as an adjunctive therapy in spontaneously breathing infants with moderate-to-severe acute bronchiolitis [9].

Clinical chemistry

A pilot study by Abid and colleagues has demonstrated that an increasing urinary microalbumin over the first 48 hours of ICU admission appears to accurately predict the evolution of acute renal failure and multi-organ failure [10]. The King's

College Hospital Liver team have demonstrated that arterial blood lactate measurements on admission and after fluid resuscitation in patients with paracetamol-induced acute liver failure, accurately identifies those patients who will require transplantation [11].

Sedation

Delirium is a common but under recognised problem in ICU. Ely and colleagues have aided identification and standardisation of this problem by designing and validating an assessment system (see paper report) [12]. An interesting paper on the antioxidant effects of propofol and how these impact on erythrocyte function raises further questions about the potential secondary benefits of this drug over its rivals [13].

Another research technology coming to a bed near you soon

Microdialysis, a technique for investigating very localised tissue chemistry is set to be emerging from the laboratory to the bedside over the next few years [14]; one such application is demonstrated by Herkner and colleagues, who have shown that levels of antibiotics can be monitored in the interstitium of patients' lungs using this technique [15].

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