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Clinical Trials in Intensive Care Medicine (J.-L. Vincent)

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Intensive care medicine is one area of medical practice where the conduct of clinical trials is often difficult, largely because of the very heterogeneous nature of our patient population. As a result, a large part of our standard-of-care practice has never actually been demonstrated to be effective in randomised controlled trials! But with financial constraints biting and demands from all quarters for us to justify our actions, intensive care is now playing catch up. The formation of national and international consortiums of critical care physicians has helped in this process and the initial trickle of results from large, high quality, multi-centre randomised trials that are (re) assessing established and new interventions in many aspects of critical care therapeutics is now developing into a steady stream.

The 29th Symposium of Intensive Care and Emergency Medicine, to be held in Brussels from March 24-27, 2009, will provide participants with the opportunity to discover the results from some of these studies, a number of which will be presented for the very first time. Here's a summary of just a few:

n The NICE-Sugar Study

Results from this large Australasian and Canadian study are eagerly awaited-previous studies, by Van den Berghe and colleagues have been positive, but the VISEP and Glucontrol studies have shown negative results. We will also hear about a new study on tight blood sugar control in children.

n rFVIIa in Polytrauma

This study, targeting a reduction in mortality, was discontinued at an interim analysis for futility. Indeed, the mortality rate overall was much lower than anticipated so that it was hardly possible to reduce it further. However, the study did reveal some interesting facts, including that rFVIIa significantly decreased the number of transfusions.

n Tissue Factor Pathway Inhibitor (TFPI) in Patients with Community-Acquired Pneumonia (CAP)

Following a trial of TFPI in severe sepsis, which failed to show a consistent benefit on outcomes, but yielded some quite surprising findings, it is hoped that TFPI may prove to be effective in patients with CAP.

n Extracorporeal Support with the Molecular Adsorbent Recirculating System (MARS) in Acute Liver Failure

The results of a recently completed multi-centre study will help determine whether this albumin dialysis system, available since 1993, can improve outcomes in this group of patients for whom there are few specific therapeutic options.

Early Versus Late Tracheostomy in Patients with Prolonged Mechanical Ventilation

It has been proposed that early tracheostomy in patients receiving prolonged mechanical ventilation could be associated with improved outcomes. However, clinical studies so far have given conflicting results. This study may help provide some definitive answers.

n Prone Ventilation in ARDS

Prone positioning during mechanical ventilation in patients with acute respiratory failure has been widely shown to be associated with improved oxygenation, but studies so far have not been able to demonstrate that the improved oxygenation translates into improved survival. Results from a recent multi-centre Italian study will be presented.

This is just a small personal selection of the many clinical trial results that will be presented and discussed during the 29th ISICEM. Other new results include:

- Monitoring of immune status with HLA-DR receptors
- Guiding antibiotic therapy with repeated blood procalcitonin levels
- The effects of intravenous fluids on renal function
- Studies investigating the microcirculation using SDF or NIRS techniques
- Alternative modes of ventilation including NAVA and high frequency oscillation
- Monitoring of lung mechanics in ARDS, including pleural pressures, electrical impedance tomography and SPECT techniques
- Automated weaning techniques
- Special formulas for nutrition

There will also be new data and/or substudy results from older trials including:

- The MENDS trial comparing dexmedetomidine to benzodiazepines
- The VASST study on vasopressin in septic shock
- The Corticus study on hydrocortisone in septic shock

Finally, for this symposium appetizer, results will be presented from the Round Table conference on ICU-acquired weakness, which will be held immediately prior to the ISICEM and will gather a faculty of 24 experts in this field. With improved intensive care, patients are surviving longer, and syndromes of neuro/myopathy are increasingly being seen. ICU-acquired weakness can affect multiple aspects of ICU patient care, including weaning from mechanical ventilation and general mobilization, and can be a cause of delayed recovery and prolonged post-discharge disability. The Round Table will explore all aspects of this important complication of ICU care.

Delivering the very latest results from clinical trials around the world, the 29th ISICEM helps you keep right at the cutting edge of intensive care medicine.

Visit our website www.intensive.org for the latest program and join us in Brussels in March!

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