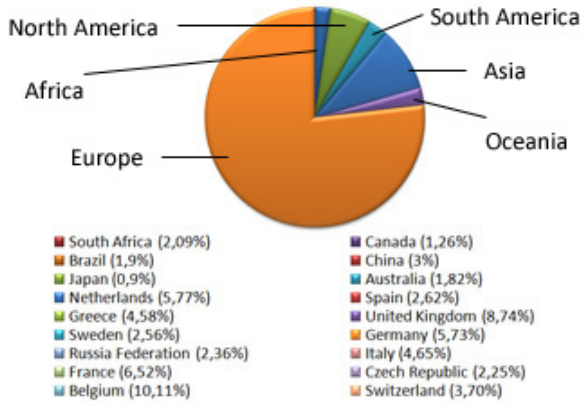
INTERNATIONAL SYMPOSIUM OF INTENSIVE CARE AND EMERGENCY MEDICINE

SATURDAY, MARCH 13 SYMPOSIUM NEWS

PIE 2010



The Next 30 Years…

A recurrent theme throuhout this special 30th anniversary symposium has been to see how far we have come over the last 30 years and to reflect on where the future is likely to take our specialty. In one of the final sessions of this year's meetings, speakers presented their vision for the next 30 years of intensive care medicine. Dr Christopher Farmer started by outlining ways in which intensive care medicine could be improved in countries where no or only rudimentary facilities were available. He suggested that this approach would require cultural sensitivity, compromise and adaptability but was feasible with consistent and continued input from intensivists from countries where critical care was better established and would benefit all involved. Dr Kevin Dhaliwal discussed how molecular imaging with optical agents and smart probes is being developed that could enable tissues and tissue processes to be visualized directly at the bedside. Dr Jean-Paul Mira focused on the role of genetic data in prognostics and diagnostics, but also in guiding some drug choices to maximize efficiency and minimize adverse effects. Dr Maxime Cannesson discussed the exponential increase in technology over time. He compared the human being, with its limitations in terms of reduced vigilance after 60 mins, proneness to fatigue, the ability to only process 4-7 pieces of data at any one time, and the automatic filtering of what we believe is not essential so as to limit data input, with artificial intelligence systems that have none of these restrictions. He also suggested, somewhat controversially, that a trained human doctor is considerably more expensive than technology! Dr Cannesson briefly mentioned artificial neural networks that are being developed to react to particular patterns of data so as to raise alarms, and commented on some robotic technology that is already available and other possibilities for the future including use for catheter-placement or endotracheal intubation. He concluded that artificial intelligence systems would become increasingly apparent on the ICU, but that human physicians would still have a place for elaboration, creation, and management of unique situations! Finally, Drs Bertrand Guidet and Peter Suter spoke about the difficulties of balancing increasing demand for ICU beds and increasing costs of critical care with the limited resources available, introducing some ethical discussion of issues of triage and rationing

Glucose Control in 2010

Almost 10 years ago now, Dr Greet Van den Berghe and colleagues published the results of a randomized controlled study that demonstrated that tight control of glucose levels using insulin was associated with improved outcomes. The results from this single center study changed our attitudes to glucose control and set in chain a series of multicenter studies. However, none of the large multicenter studies was able to confirm the earlier findings and indeed showed harm, particularly in relation to an increased number of hypoglycemic episodes. In a session dedicated to glucose control, the available evidence was reviewed, and the apparent discord between observational studies and interventional studies discussed. The importance of variability in blood glucose levels rather than hyperglycemia per se was highlighted by several speakers. Dr Djillali Annane discussed the results of a recent randomized study showing that although corticosteroids are associated with increased blood glucose levels, intensive insulin therapy (to maintain blood glucose levels between 80 and 110 mg/dl) in these patients seemed to have no benefit over standard of care glucose control (blood glucose maintained according to surviving sepsis campaign guidelines).

Dr Mauro Oddo then discussed the potentially detrimental effects of tight blood glucose control in patients with neurological injury and suggested that brain glucose monitoring with cerebral microdialysis may be useful in these patients. Dr James Krinsley then tried to summarize how he felt we should be managing blood glucose today. He stressed the difficult nature of blood glucose control with resource intensive, complex protocols, and emphasized the need to assess the performance of the investigators when interpreting study data as the learning curve for this intervention may be an important factor. He concluded with the message that in 2010 we should be avoiding hypo and hyperglycemia and variability in blood glucose levels but that the exact protocols and blood glucose limits need to be determined according to the ability of each unit to achieve those targets according to the available staff, technology, and resources.

Sedation Guidelines: Where are We?

In a session on sedation, Dr Michael Grounds started by reminding us that the word sedation comes from the latin word "sedare" meaning to soothe, settle, calm, allay, and not to put to sleep or make unconscious! Sedation is often needed in the ICU patient especially during mechanical ventilation, but also for relief of anxiety, fear or agitation, to assist with sleep, and to help limit discomfort during procedures. Dr Grounds reminded us of the various non-pharmacological means of alleviating anxiety including good communication, control of environmental factors, and touch/massage. He commented briefly on short-term sedation, noting that here the choice of agent was largely down to individual preference. He then reviewed the various guidelines available for more prolonged sedation, noting that surprisingly few have been published. All the guidelines advice control of pain before sedation, and when sedation infusion is needed most recommend fentanyl, midazolam, or lorazepam. All recommend repeated reassessment of sedation, but this varies from daily to every three or four hours. Dr Grounds suggested some factors he felt were important in developing new guidelines for sedation. He agreed that pain needed to be controlled first and that in patients without renal or liver failure, morphine was a good first choice. In patients with liver or kidney failure, other agents including remifentanil, alfentanil and sufentanil were preferable. He noted that it was important to be able to adjust sedative levels relatively rapidly and that drugs with short context-specific half-lives should be used, commenting that perhaps fentanyl and lorazepam were not ideal choices in this respect. Finally, Dr Grounds stressed the need for sedation to be adapted to the individual patient and encouraged a more frequent, at least hourly, re-assessment of sedation.