

MEETING REPORT

Highlights from the Critical Care Canada Forum 2009 – 25 to 28 October 2009, Toronto, Ontario, Canada

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The Critical Care Canada Forum was held in Toronto, Canada from 25 to 28 October 2009 [1]. The conference, which focuses on the care of critically ill patients wherever the patients are located, was attended by 879 delegates and featured 197 separate presentations, including several as yet unpublished trials. The hot topic this year was planning for the impact of a worldwide outbreak of H1N1 influenza on critical care systems, but the conference also covered a broad range of critical care interventions including mechanical ventilation, sedation and analgesia, renal replacement therapy, and extracorporeal membrane oxygenation. Herein we summarize just a few of the many exciting clinical trials and plenary topics presented at the conference.

H1N1 pandemic

The Critical Care Canada Forum 2009 featured several presentations describing the outcomes of critically ill patients with H1N1 virus infection from Australia, Mexico, and Canada.

Dr Jamie Cooper (Melbourne, Australia), speaking on behalf of the Australia–New Zealand Intensive Care Influenza Investigators [2], described outcomes of 722 patients with confirmed H1N1 virus infection that were admitted to 187 intensive care units. Of these patients, most (92%) were younger than age 65, and large proportions were pregnant (9.1%) or had a body mass index >35 (28.6%). The overall mortality rate (as of September 2009) was 14.3% (95% confidence interval = 11.7 to 16.9%). Nitric oxide, inhaled prostacyclin, and prone positioning were used frequently to treat refractory hypoxemia. Outcomes of 68 patients from 15 centres who were treated with extracorporeal membrane oxygenation were also described [3]. Illness severity was

predictably very high in this group, and the overall hospital mortality was 23% with most deaths due to haemorrhage.

Dr Anand Kumar (Winnipeg, Canada) and Dr Rob Fowler (Toronto, Canada) presented data from the Canadian Experience [4]. Severe illness due to H1N1 infection (confirmed or probable) occurred in 168 patients during a 4-month period. Similar to the Australian–New Zealand experience, the cohort was young (mean age 32 years), and females, children, and the obese were disproportionately affected by severe illness requiring critical care. The overall mortality at 90 days was 17.3% (95% confidence interval = 12.0 to 24%). Notably, one-quarter of cases involved First Nations Canadians, Inuit, Métis, or aboriginals. Rescue therapies to treat refractory hypoxemia, including nitric oxide and high-frequency oscillation, were also commonly required in this group.

Dr Guillermo Dominguez (Mexico City, Mexico) next presented outcomes of 58 critically ill patients with H1N1 infection in Mexico [5]. This cohort was one of the first to be affected by the pandemic, and mortality at 60 days was high (41.4%, 95% confidence interval = 28.9 to 55.0%).

Together, these presentations highlighted the potential importance of early treatment with neuraminidase inhibitors. Following the session, 240 of the Critical Care Canada Forum delegates received the H1N1 vaccine through a team from the Toronto Public Health Department.

Renal replacement therapy

Dr Jamie Cooper (Melbourne, Australia) also presented the recently published RENAL study (Randomized Evaluation of Normal vs. Augmented Level of renal replacement therapy in ICU) [6] on behalf of the Australian and New Zealand Intensive Care Society Clinical Trials Group and the George Institute for International Health. This study randomized 1,508 patients to receive either lower intensity (25 ml/kg body weight/hour) or higher intensity (40 ml/kg body weight/hour) post-dilution continuous venovenous haemodiafiltration. At 90 days, mortality in both groups was the same (44.7%) (odds ratio = 1.00, 95% confidence interval = 0.81 to 1.23; $P = 0.99$). Higher rates of hypophosphataemia

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were observed in the higher intensity group. Dr Cooper concluded that the results of this study and the recently published Veterans Affairs/National Institutes of Health Acute Renal Failure Trial Network study [7], which produced similar findings, suggest that higher intensity renal replacement therapy does not lead to lower mortality for critically ill patients.

Intensive care unit follow-up programmes

Dr Brian Cuthbertson (Toronto, Canada) presented the PRaCTICaL study, a UK multicentre randomized controlled trial of intensive nurse-led intensive care unit follow-up programmes versus standard care [8]. The intervention included clinic visits and a self-directed physical rehabilitation programme. In total, 286 patients were included and 192 completed 1-year follow-up. There was no evidence of a difference in the main outcome measure – health-related quality of life measured using the Short Form 36 questionnaire at 12 months. During the discussion following the presentation, it was suggested that future studies should consider focusing on differently timed or differently structured programmes to improve long-term outcomes of patients following intensive care unit discharge.

Industry and medicine

Dr Tom Stossel (Boston, USA) and Dr Allan Detsky (Toronto, Canada) engaged in an exciting debate about the pros and cons of allowing for-profit companies to become involved in healthcare research, medical education, and clinical practice. Dr Stossel reminded delegates of the large number of new products and innovations that were introduced during the past 30 years that would probably not have been developed without significant investment from industry. He also discussed the extent to which US government legislation now restricts the activities of industry in that country. In his response, Dr Detsky reasoned that there should always be a clear separation between funding for research and funding for marketing and promotion. He also argued that groups tasked with developing clinical guidelines should be discouraged from accepting funding from industry to reduce the potential for a conflict of interest.

Conclusion

The above is just a small selection of the many fascinating clinical and basic science topics that were presented at this year's meeting, including rehabilitation and early mobilization after critical care, acute respiratory distress syndrome, cardiology problems in critical care, and transfusion medicine. Planning for next year's meeting is

already underway and it promises to maintain the same very high standard of critical care education. Save the date: 6 to 10 November 2010.

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Competing interests

IJM was provided with complementary Hotel accommodation during the 2009 Critical Care Canada Forum for producing daily update reports distributed to delegates during each day of the conference. DCS is a member of the organizing committee for the Critical Care Canada Forum.

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