

Meeting Report: Inaugural Conference of the International Collaboration for Excellence in Critical Care Medicine

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Summary

The inaugural conference of the International Collaboration for Excellence in Critical Care Medicine (ICE-CCM) was held in Toronto, Canada, from May 15 to 17 2002. The vision of ICE-CCM is to provide a mechanism for international collaboration and to teach basic skills in teamwork, information management, and leadership to clinical leaders, to disseminate across the global critical care environment. The agenda for this novel critical care meeting was developed by an international steering committee, and involved leadership training, team building, personality profiling, critical care simulation exercises and handheld computing technology, as well as updates in critical care. A diverse faculty of speakers (including a psychologist, an airline industry representative and a pharmaceutical CEO) presented to small group of intensivists from sixteen countries. The meeting was highly successful, and plans are underway for a further conference in October 2002.

Introduction

The International Collaboration for Excellence in Critical Care Medicine (ICE-CCM) was founded in January 2002 in an effort to create a novel and unique educational forum and idea exchange that would be useful to critical care providers internationally. The Collaboration has been funded by an initial unrestricted educational grant from Eli Lilly Canada and Intercontinental Regions. The anticipation is that in the near future additional sources of permanent funding will be established. (further details about this collaboration can be found at www.ice-ccm.org) Consistent with this mission, ICE-CCM held a leadership forum as its inaugural symposium attended by critical care leaders representing sixteen countries around the world. Formal leadership training was felt by the steering committee for the ICE-CCM to be something that could be of major benefit to intensivists worldwide and had generally been neglected in formal medical training. In the three days of the meeting, participants engaged in activities as wide ranging as team building through live simulation training, error prevention using models from the airline industry, leadership training through lessons from the pharmaceutical industry, personality profiling, and finally a session on handheld computer use and information management in the ICU. The conference took place May 15 to 17, 2002 in Toronto, Canada, and was hosted by the University of Toronto interdepartmental division of critical care medicine. This meeting report presents highlights from the conference.

Current Concepts in Critical Care Medicine

Several local presenters from the Toronto Critical Care group presented a number of interesting clinical reviews of the critical care literature. Dr. J. Granton provided an insightful discussion into use of inotropes and management of hemodynamics. In particular, there was significant controversy amongst participants with regards to the role of dobutamine as an adjunct to vasopressors in septic shock. Also, the utility and role of vasopressin in the management of shock was hotly debated. Dr. Granton pointed to the upcoming results of Dr. J. Russell's ongoing multicenter CIHR funded "Vasopressin versus norepinephrine in patient Septic Shock" (VASST) study to help further answer this question. He also discussed data on several new monitoring techniques that are becoming more available to ICUs. Other presentations included a discussion by Dr. S. Mehta on the current state of research into sedation and analgesia as well as a state-of-the-art discussion by Dr. T. Stewart on mechanical ventilation. Dr. Stewart emphasized the results of the landmark ARDSnet trial [1]. However, despite the dramatic results of ARDSnet, one study has shown that less than 5% of patients that meet ARDSnet inclusion criteria are being ventilated using this strategy in an ARDSnet trial center [2]. Strategies for better dissemination of emerging concepts such as low tidal ventilation around the world were thought to be central to the mission of ICE-CCM.

By far the most topical discussions revolved around the rapidly evolving management of sepsis. Dr. J. Marshall discussed the great potential to transform the management of critical illness through new markers, better staging and stratification mechanisms, as well as new targeted therapies. He reviewed the PIRO staging system (Predisposition, Infection, Response, Organ dysfunction) first proposed at a Sepsis

Definitions Conference held in December 2001. Several high profile failures of novel sepsis therapies including antithrombin III, HA-1A anti-endotoxin monoclonal antibody, and TFPI were reviewed as examples of the difficulty in developing new drugs for the heterogeneous ICU patient population. In addition, the promise of Activated Protein C (APC), as the first targeted biologic therapy approved specifically for the management of severe sepsis was presented [3]. Dr. R. Wax later held an open forum case conference discussion on clinical experience to date with APC in critical illness. There was significant debate over patient selection for expensive novel therapies such as APC. To this end, Dr. S. Lapinsky presented a proprietary handheld computer clinical decision aid for rapid screening of patients for APC therapy.

Teamwork

As an introduction to one of the more innovative aspects of the conference, Dr. F. Brunet presented a dynamic lecture on teamwork training in critical care. He emphasized the need for developing a standardized team training program built around a core group of personnel and discussed several successful methods for training teams. Keys to the success of Dr. Brunet's program in France to date has been the development of metrics to assess improvements in team performance, the engagement of hospital leadership, as well as frequent reporting of results to team members and others. The ultimate goal of the program is to create an environment of continuous quality improvement with fewer errors and improved quality of patient care. Dr. Brunet's group now hopes to use ICE-CCM as a mechanism for developing international studies on teamwork training systems in critical care departments.

An introduction to principles of “crisis resource management” (CRM) was provided by Joe Persolja, a human factors instructor from Air Canada Operations. CRM was defined as making the best use of people, information and equipment in a crisis. Mr. Persolja provided a brief history of the development of CRM training in the aviation industry. Strategies used to avoid error, abort error, and minimize the effects of error were presented. Some of the parallels and differences between aviation and medicine were discussed. The program participants felt that aviation provided an excellent example for the field of critical care, in that the aviation industry has made progressive and concrete efforts to integrate good communication and leadership skills into everyday practice.

One of the most hands-on sessions of the conference, run by Dr. R. Wax, was on practical training in teamwork and leadership during crises using patient simulation technology. Attendees were divided into small groups to experience high-fidelity crisis simulation. A number of challenging cases were presented, including an asystolic arrest with a previously placed esophageal intubation, and an anaphylactic shock scenario requiring surgical airway intervention (Figure). The intensivists alternated between participating roles and observer roles. A critical care nurse and a respiratory therapist provided support to the physicians, and performed their usual tasks. Observers were able to watch and listen to team interactions using a closed-circuit telecommunications system in a separate room. The observers scored team CRM skills using a global evaluation of team performance, as well as three specific domains: communication, situational awareness, and decision making. Following completion of all scenarios, attendees reviewed videotapes of all group performances, including picture-in-picture display of

physiological monitor data synchronized with the live action audio/video. Peer feedback was provided by participants, with facilitation provided by the course instructor.

There was considerable variability between groups in the application of effective CRM techniques, attributed to factors such as the unusual simulated environment as well as cultural differences. The participants felt that the simulation provided an excellent illustration of effective and sub-optimal CRM skills, but suggested that they would benefit from additional exposure after the initial training period. Participants also suggested that the ICE-CCM initiative should be used to provide support to those interested in establishing simulation training centers in their home countries.

Information Management

Dr. D. Cook of McMaster University presented a fascinating lecture on strategies for keeping up with the medical literature and for dissemination of information amongst colleagues. Practical tips for critical appraisal and rapid access to critically reviewed medical literature were presented. Several examples of areas where the implementation of widely accepted medical evidence has been poor, including stress ulcer prophylaxis and patient positioning, were discussed in an effort to distill the forces that drive the adoption of change in ICU practice. Several techniques including computerized reminders for prevention in hospitals were presented as possible techniques for continuous quality improvement. Building on this session, Dr. S. Lapinsky hosted a workshop on usage of handheld computers in the ICU. Practical training was provided to all participants in rapidly accessing drug information, reference materials, and other medical applications. Dr. Lapinsky also presented the results of some of his own

research utilizing handhelds for procedure logging by surgical trainees during residency training.

Leadership

Leadership was a major focus of the inaugural ICE-CCM conference. Dr. W. Sibbald kicked off the leadership program with a talk entitled “Creating leaders around you”. Dr. Sibbald addressed the imperative for creating strong leaders in intensive care medicine and provided valuable insights into understanding the true definition of leadership. Building on this presentation, Mr. G. Crupi, President of Eli Lilly Canada, presented an enthusiastic and engaging discussion on leadership lessons from industry. He emphasized the need for a strong vision and management of key talent to help ensure a culture of leadership.

The final and perhaps most innovative conference session involved a workshop on improving personal effectiveness through the use of personality profiling. After each participant completed an online questionnaire, detailed personality profiles were generated and then discussed amongst the group. Dr. P. Smythe, a leading behavioral psychologist, facilitated this lively and entertaining session. Dr. Smythe stressed the value of personality profiling both in providing significant personal insights and opportunities for development as well as in understanding the qualities of other team members. He highlighted the importance of an understanding of personality differences in communication between team members. The vision of ICE-CCM is to conduct a large study utilizing personality profiling to assess ICU team interactions as well as to compare intensive care leaders to cohorts from industry.

Conclusions

Overall, the goal of the inaugural ICE-CCM conference seemed to be to provide a glimpse into the future. ICE-CCM clearly hopes to push the boundaries of traditional medical content dissemination to include an emphasis on practical teaching including teamwork, information management, and leadership in an increasingly global practice environment. This will prove to be a tremendous challenge to us all, as the next generation of leaders in critical care. Hopefully, ICE-CCM will continue to provide a mechanism for global collaboration and innovation in the future. We look forward to the next conference to be held October 28 to 30, 2002, once again in Toronto.

References

1. The Acute Respiratory Distress Syndrome Network: Ventilation with lower tidal volumes as compared with traditional tidal volumes for acute lung injury and the acute respiratory distress syndrome. *N Engl J Med.* 342:1301-1308, 2000
2. Rubenfeld GD, Caldwell E, Hudson L: Publication of study results does not increase use of lung protective ventilation inpatients with acute lung injury. *Am J Respir Crit Care Med* 163:A295, 2001 (abstr)
3. Bernard GR, Vincent J-L, Laterre P-F, et al. Efficacy and safety of recombinant human activated protein C for severe sepsis. *N Engl J Med* 344:699-709, 2001

Figure Legend: Attendees participating in a simulated critical care scenario, during which teamwork and crisis resource management skills were emphasized.

