Dialysis and Transplantation News

Acute dialysis quality initiative (ADQI)

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Abstract
A new star is born. Its name is ADQI which stands for Acute Dialysis Quality Initiative. In the firmament of guidelines and directions for appropriate management of renal diseases, little has been done so far concerning acute renal failure and its treatment. For this reason we felt that a process seeking consensus and evidence-based statements in the field of acute renal failure was needed. Finally, the success of multi-centred clinical trials in supportive care in the ICU (e.g. transfusion thresholds and ventilator management) have intensified and renewed interest in the study of supportive care methods as a major target for future research. These developments have set the stage for the first ADQI conference held in New York on 28–30 August 2000. The conference focused on the application of CRRT in the critically ill patient with acute renal failure.

While the primary aim of this conference was to establish the methodology for the consensus process, the final objectives of ADQI are the development of evidence-based practice guidelines and directions for future research.

Since among the several controversial points concerning CRRT there is the question of who should be in charge of patient’s care and what should be the specific contribution of intensive care and renal physicians, the founding group of ADQI in New York included a balanced group of clinicians and scientists of both these branches of medicine.

Chaired by John Kellum, Claudio Ronco and Ravindra Mehta as directors of the ADQI conference, the group featured seven intensivists (Drs Angus, Murray, Stewart, Corwin, Bellomo, Wensley, Schetz) and seven nephrologists (Drs Palevsky, Paganini, Leblanc, Bunchman, Levin, Depner and Davenport) (Figure 1). The group also included members from industry (Drs Tetta, Lazarus and Clark) and two representatives from the American National Institute of Health (Drs Star and Kimmel). Since the meeting took place in the US, the American Society of Nephrology and the Society of Critical Care Medicine endorsed the scientific event. Nevertheless, for the future we are very much looking forward to receiving further sponsorships and endorsement from other scientific societies in Europe and Asia and possibly to organize focused conferences of ADQI on different specific issues in various countries.

The conference in New York was hosted by the Renal Research Institute that we must congratulate for the efficient organization and the excellent logistics.

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Specific objectives for this conference were:

(i) To establish a methodology for the development of a series of evidence-based recommendations on dialytic intervention in the ICU. This methodological analysis included: (a) the search for evidence in different areas based on the review and evaluation of the available literature; (b) the establishment of clinical and physiologic outcomes as well as measure parameters to be utilized for comparison of different methods; (c) the description of the current practice and the rationale for the use of current techniques; (d) the analysis of areas in which evidence is lacking and future research is required to obtain new valuable information.

(ii) To focus first on CRRT and define the topics that will require development of evidence-based guidelines. Draft summary statements were required to seven different working groups to
describe the current state of the art for each topic. The covered topics included: definitions/nomenclature; patient selection; solute control (treatment dose); membranes; operational characteristics (convection/diffusion); fluid management/composition; anticoagulation/access.

Conference methodology

The overall conference methodology is summarized in Figure 2.

Pre-conference activity

Each participant was part of a working group to cover a single topic. Each member was required to perform the tasks listed below. Participants were encouraged to communicate with other group members via Email or other means in order to streamline their efforts and work collectively. Participants were also encouraged to communicate with other experts both locally and internationally.

1. Define a list of questions within the topic. For each topic, a list of questions was generated. For example under membranes: ‘Which membranes should be used for CRRT?’, ‘Should bio-compatible membranes be used for CRRT?’, ‘How often should filters be changed during CRRT?’.

2. Perform a systematic literature search. Each participant was provided with a list of references from the directors. Participants were required to perform their own literature search to find any additional articles. Search strategy and terms had to be specified and participants had to be prepared to defend any exclusion criteria. In general, the trend was to be as broad and inclusive as possible.

3. Compile a bibliography. One complete set of references was brought to the meeting by the group members. A bibliography was compiled prior to the meeting.

4. Assess the current status of consensus. It was determined for local institutions and regions what questions were already fairly settled vs ones that were not. It was also determined what questions will be likely to be answerable with current literature vs ones that have insufficient evidence. Each question was rated as either: a. consensus already exists, b. data exists but controversy and variability of practice are still present, c. insufficient evidence is available. Note: we did not try to judge the quality of the evidence at this stage.

Conference activity part 1

The entire group was asked to consider methodology for the ADQI process. Specific tasks included the following.

(i) The incorporation of evidence-based medicine principles into the literature review process. Definition of levels of evidence and terms to be used. Definition of what the literature sources should be and how far back the literature should be reviewed.

(ii) Determination of what clinical, physiologic, and health economic outcomes should be considered evidence of effectiveness in clinical trials in RRT.

(iii) Definition of how physiological outcomes (e.g. arterial blood pressure) should be rated in relation to clinical outcomes (e.g. survival, need for long-term dialysis) and health economic outcomes (e.g. total costs, length of hospitalization) in evidentiary tables used for further ADQI consensus statements.

(iv) Debate on the role of evidence from animal research in RRT.

(v) Draft and review forms to be used for review of literature and data extraction.

(vi) Definition of how peer review should be done and who will be the peer group.

(vii) Discussion on how ‘best clinical practice’ will be established in the absence of evidence.

(viii) Determination of how consensus will be achieved on directions for future research.

(ix) Draft methodology statement.

(x) Discuss who will be sponsoring bodies for overall effort and how we will approach this issue.

Conference activities part 2

Breakout sessions were used for each group to catalogue and review the literature in each area and define areas of established consensus as well as areas where consensus is lacking. Each group reviewed pre-conference work and presented a draft set of statements that summarized the questions for their topic and the state of the current literature. The specific tasks for each group are listed below.

(i) Create a list of individuals to serve as consultants (for each topic) for the final consensus.

(ii) Develop the final list of questions and identify key evidence that should be reviewed. (Each topic required key references associated with it.)

(iii) Work groups rated the current status of the literature based on the ratings above (a. b. or c. from above).

(iv) A summary statement listing what is needed to proceed further for each question and the current state of the literature was drafted. The spokesperson presented the draft summary statements and presented findings from any key studies.

Note: at this stage, we did not attempt to develop NEW consensus; this will be covered in the second stage of the ADQI process. Instead, summary statements listed questions, described current practices and
noted the presence or absence consensus already existing.

(v) The entire group evaluated the statements and suggested revisions.

(vi) Final statements were drafted 'on line' with all members present. A majority vote was required to approve all statements.

Post-conference activity and future plans
A writing committee will include the conference directors and one or two other members nominated by the group to compile the findings of the conference. This document will be completed as soon as all the necessary revisions will be made from the original drafts and will be posted on the internet (www.ADQI.net) for comment by the remainder of the participants. The period for comment will be limited in time and revisions will be made accordingly. The final product will be submitted as a manuscript for publication immediately following this process.

Conclusion
ADQI is an ongoing process that will compile evidence-based statements on different issues concerning acute dialysis. The first step was to try to reach consensus on CRRT, an area where major controversies are still present. The next step will be the development of consensus statements that should provide the basis for recommendations to be used in clinical practice. Our effort aims at obtaining a common ground where acute dialysis should be discussed and hopefully optimized. At the present time there is very little agreement on how much, when and how dialysis should be provided. We hope to move a little further with the co-operation of anyone who may be interested in helping and becoming temporary or permanent member of the commission for the development of the ADQI tasks.

Acknowledgement. The ADQI directors would like to express their gratitude to Renal Research Institute for the organizational and scientific support to the first ADQI conference. The generous support of the sponsors should also be acknowledged. In particular we would like to thank: Baxter, Belco, B. Braun, Fresenius Medical Care, Gambro, Kimal, Medica, Nextrom Med Tech and Renaltech.

Editor’s note
Please see also Editorial Comment by A. M. Davison, p. 1535.