Editorial

OMERACT 6 Brings New Perspectives to Rheumatology Measurement Research

With its 6th biannual conference completed in April 2002, OMERACT (Outcomes Measures in Rheumatology Clinical Trials) continues to successfully gather a unique mix of academicians, pharmaceutical industry-based clinical scientists, and government drug regulatory personnel for a working meeting focused on clinimetrics, the science of clinical measurement. OMERACT meetings seek to generate new knowledge and to develop consensus on the use of methodology in musculoskeletal disease research. OMERACT's roots and its continued emphasis are in rheumatoid arthritis (RA), but each meeting since the first has added exciting new measurement themes from other areas of rheumatology. Although some study topics vary from meeting to meeting, others are deliberately repetitive to build on evolving themes and progress.

OMERACT 6, held along the Australian Gold Coast of Queensland, featured workshops and modules preselected by the leadership. Despite a smaller number of attendees (n = 125) than at some past meetings, participants were treated to interactive scientific sessions and enjoyable social interactions in the "land down under." The proceedings of this meeting are contained beginning in this issue of The Journal[1]. These OMERACT reports, like their predecessors, add important new perspectives to outcomes research in rheumatology. The scientific output from this year's meeting is reviewed below as well as a brief appraisal of OMERACT's cumulative progress and suggested future directions.

ECONOMICS IN RHEUMATOLOGY

The field of health care evaluation and economic modeling has chronically suffered from limited standardization. This has resulted in poor ability to compare the public health implications (i.e., cost and outcomes) of health care programs. OMERACT 6 focused on economic evaluations suitable for studies of disease modifying antirheumatic drugs. As advocated by the medical decision making community, one goal for OMERACT 6 was to generate a "reference case"[2], or standardized framework, for RA economic analyses. Following prior work in this area by the economic group organizers[3-5] and after the OMERACT 6 planning meetings, the economics workgroups solicited input from over 290 international experts on this topic. Based in part on this useful feedback, OMERACT investigators defined 13 key elements of a reference case for RA[6,7].

At each of the OMERACT sessions "voting" on a series of opinion or position statements is conducted to reach consensus via a delphi-type process. In an effort to achieve parsimony during the economics workshop, some of the items selected for voting were somewhat self-evident, albeit rather grounding for a diverse group in attendance. One area where OMERACT should take pride has been its ability to successfully attract a number of leading health care economists (from academia and industry) into the rheumatology world. Their participation and commitment to the field has added substantially to the depth and breadth of our knowledge in this now highly important area. Given the growing burden of cost issues in musculoskeletal disorders, OMERACT's past and recent economic accomplishments are of timely importance.

MAGNETIC RESONANCE IMAGING IN RHEUMATOID ARTHRITIS

Magnetic resonance imaging (MRI) continues to emerge as an extremely valuable technique to sensitively evaluate serial joint changes in RA[8,9]. OMERACT MRI activities have extended well beyond the biannual meetings to include gatherings in other venues[10]. Indeed, the MRI workgroup has been one of the most timely and productive activities to come through OMERACT. The group has successfully formulated an OMERACT-MRI scoring system. Similar to the economics group's ability to draw in expertise from outside traditional rheumatology circles, the MRI work of OMERACT has forged new partnerships between radiologists, rheumatologists, and methodologists. At OMERACT 6, the scoring system's adherence to the OMERACT filter[11] of truth (face, content, construct, and criterion validity), discrimination (reliability and sensitivity to change), and feasibility was further examined. The group reviewed data from 3 additional "exercises" on the use of computerized

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MRI measurement in RA, a reliability study, and a multicenter longitudinal investigation of sensitivity to change. OMERACT 6 meeting participants endorsed this scoring system as well as basic MRI sequences. While a clear advance, all scoring methods have limitations, and MRI is still only a complement to traditional radiographic scoring in RA. Cost and convenience will further limit MRI's widespread use outside of clinical trials. Notwithstanding, thanks in part to OMERACT, MRI has an increasingly strong foothold in RA clinical trials.

REPAIR OF BONE DAMAGE IN RA

Based on data with new RA therapies suggesting that bone repair can occur[12-14], OMERACT 6 introduced this as a new topic. The aim of this workshop was to establish a research agenda and to test hypotheses associating bone repair with inflammation. One important conclusion of this workshop was a consensus that bone repair in RA does indeed occur. Although repair should optimally be validated against synovial pathology, noninvasive modalities are more practical for validating this construct. Given the very small differences that must be identified with imaging, research questions and measurement issues on repair abound. As treatment options in RA further improve, the bar will continue to be raised and repair may ultimately preside over other outcome measures as an optimal endpoint.

LOW DISEASE ACTIVITY STATE IN RA

Also a recurring topic of OMERACT gatherings, the definition of a minimally clinically important difference (MCID) was again examined and refined. Recognizing that the current RA response criteria may not be an adequate goal, definition of a "low disease activity" state, perhaps synonymous with a partial remission, is believed to be of scientific value. The workshop reviewed this terminology and made plans to collect and design longitudinal datasets useful to further validate this concept. The patient participants attending OMERACT 6 (and likely future meetings, as discussed below) have and will continue to help operationalize this important definition. Given its complexities and subtleties, this area is one of the more challenging and contentious topics of OMERACT. A research agenda and plans for work between OMERACT 6 and 7 will motivate a clearer understanding of these weighty and, at times, elusive constructs.

PATIENT PERSPECTIVES

Specific to the Australia meeting, a novel new workshop was developed to better incorporate patient perspectives in arthritis measurement research. There have been repeated findings that outcome assessment[15] and, in turn, treatment decision in RA vary greatly among health care providers[16]. Given the lack of any foreseeable treatment standardization, it seemed intuitive to centrally involve patients in better defining outcomes that are comprehensive and that meaningfully influence clinical decision making. Highly unique to rheumatology meetings, OMERACT 6 included arthritis patients as actual workshop participants[17-20]. These articulate volunteers provided important input on missing dimensions of RA outcome measurement[21]. They expressed particular concern that terminology and questionnaires commonplace to researchers may not be well accepted by patients. For example, the OMERACT patients believed the current core sets of RA criteria do not capture or give adequate weight to a global sense of well being, fatigue, or disturbed sleep. What may be a minor concern to the clinician could be a major concern to the patient, and vice versa. The organizing group and most certainly these altruistic patients (traveling to Australia from 7 different countries) are to be particularly commended for this unique contribution. Although qualitative research of this type has limitations, particularly in terms of its generalizability, measures can be refined and hypotheses generated from this first-person perspective. Based on the preliminary success of this forum at OMERACT 6, near unanimous enthusiasm existed for a continued and possibly expanded patient participation at the next OMERACT meeting.

OSTEOARTHRITIS OUTCOME ASSESSMENT

Since OMERACT 3, osteoarthritis (OA) has been an incorporated topic. As new therapeutic options emerge, further standardization of OA outcomes was deemed appropriate for this meeting. OMERACT 6 discussed and debated variability in placebo versus active treatment effects using the OA Research Society Initiative (OARSI) responder criteria, determination of cut-points for acceptable placebo response, minimal sample size needed, and consideration of a simplified criterion set. After review of the considerable data presented, workshop participants reached consensus on such topics as the lack of need to modify OA criteria based on location of OA, type of drug used, or route of drug administration. The OA outcome assessment activity is an excellent example of serial OMERACT progress and how OMERACT can and should successfully collaborate with other international organizations, in this case the OARSI.

SYSTEMIC SCLEROSIS

OMERACT 6 marked one of the international measurement community's first systematic reviews of scleroderma outcome assessment. This particularly productive OMERACT working group critically examined a number of both general and symptom/problem specific assessment tools and determined how well they satisfied the OMERACT filter. Consistent with a very effective session, the report from this group contains an extremely comprehensive and well-referenced compendium in this understudied area. A systemic sclerosis domain-specific research agenda adds further to this important contribution.

WHERE HAS OMERACT BEEN AND WHERE IS IT GOING?

The ability of OMERACT to bring together a diverse, international clinical research audience is not replicated in many other rheumatology forums. A looser structure than in other meetings allows for more spontaneity and "out-of-the-box" thinking. Although real-time solutions do occur, they can be elusive, and meetings primarily generate new ideas in need of future research. The activities of OMERACT 6, detailed starting in this and subsequent *Journal* issues, have significantly advanced clinical measurement science for a variety of rheumatic diseases. The economics, MRI, and OA activities particularly highlight the substantial achievements that have resulted from iterative work by many investigators through the OMERACT process and in collaboration with other groups. Although the meeting continues to rely on considerable behind the scenes work, both breakout and plenary sessions effectively elicit group input. At times discussion on topics may be strongly influenced by key opinion leaders, but holding more meetings of smaller concurrent interest groups has partially remedied this problem. As evidenced by the contributions to this year's journals, it is clear that relative newcomers are playing major roles on the OMERACT stage. Given the eclectic mix of OMERACT participants and the obvious benefit of well-defined outcome measures to musculoskeletal drug approval and regulation, a strong connection with the pharmaceutical industry is both inescapable and appropriate. An issue also confronting other medical societies, further attention to appropriate partnerships with for-profit entities will help minimize any adverse perceptions that might surround this area.

Planning is now underway for OMERACT 7. This meeting is slated for May, 2004 near Monterey, California, USA. Back by popular demand, OMERACT 7 will include a patient perspective workshop and a young investigators day (last held at OMERACT 5). The rheumatology community should take pride in the many contributions of OMERACT. From the initial hard work of a dedicated group to an expanding cadre of participants, OMERACT has helped advance clinical rheumatology's ability to quantitatively discern the value (or, in some cases, lack thereof) of what we do for our patients.

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