Update on Research and Future Directions of the OMERACT MRI Inflammatory Arthritis Group

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ABSTRACT. The OMERACT Magnetic Resonance Imaging (MRI) Task Force has developed and evolved the psoriatic arthritis MRI score (PsAMRIS) over the last few years, and at OMERACT 10, presented longitudinal evaluation by multiple readers, using PsA datasets obtained from extremity MRI magnets. Further evaluation of this score will require more PsA imaging datasets. As well, due to improved image resolution since the development of the original rheumatoid arthritis MRI scoring system (RAMRIS), the Task Force has worked on semiquantitative assessment of joint space narrowing, and developed a reliable method as a potential RAMRIS addendum, although responsiveness will need to be evaluated. One of the strengths of MRI is the ability to detect subclinical synovitis, so the group worked on obtaining low disease activity/clinical remission datasets from a number of international centers and presented cross-sectional findings. Subsequent longitudinal evaluation of this unique resource will be a major continuing focus for the group. (J Rheumatol 2011;38:2031–3; doi:10.3899/jrheum.110419)

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In rheumatoid arthritis (RA) clinical trials, magnetic resonance imaging (MRI) is now frequently used as an outcome measure. Given the difficulties with demonstrating structural radiographic change with modern trial designs, there is increasing need for MRI to provide a more sensitive tool for assessing outcomes in proof of concept and dose-finding Phase II and III trials. The Outcome Measures in Rheumatology Clinical Trials (OMERACT) MRI Task Force has been instrumental in supporting MRI advances, with its RA MRI score (RAMRIS, evaluating bone erosions, bone

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Conaghan, et al: OMERACT MRI group update

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Understanding the “MRI Acceptable Disease Activity State” in RA

Previous reports have shown a high frequency of MRI signs of inflammation in patients with RA in clinical remission, and a recent study showed that MRI findings in such patients are predictive of progressive radiographic joint destruction. This suggests that modern imaging is critical for future remission criteria. However, it is not yet clarified if there is an amount of MRI inflammation (synovitis and/or bone edema) below which patients will not show progressive joint destruction. We therefore undertook the initial steps to explore whether a “MRI acceptable disease activity state” can be defined. By gathering datasets with MRI and clinical information from a number of collaborating centers internationally, we have initiated an OMERACT dataset in which to explore the importance of so-called “subclinical” inflammation. After the considerable effort to gather these datasets of patients in low disease activity [Disease Activity Score 28 (DAS28) < 3.2] and clinical remission, an initial exercise was undertaken involving a cross-sectional analysis to determine if the extent of subclinical disease was as prevalent as previously reported in both low disease activity states and clinical remission.

Ongoing Development of a PsAMRIS

The use of MRI in clinical trials of other inflammatory arthritides has also grown. Although the MRI features of peripheral joint pathology in PsA have been described (including synovitis, tenosynovitis, enthesal abnormalities, bone erosions and proliferations, and periarticular inflammation), until now there has been no well-accepted MRI scoring system for outcome assessment. Our group has worked on this over the previous 3 years. At OMERACT 9, we provided MRI definitions of important pathologies in peripheral PsA and suggestions concerning appropriate MRI sequences for use in PsA hands.

We also proposed a preliminary OMERACT PsAMRIS for evaluation of inflammatory and destructive changes in PsA hands, developed through an iterative process as was used for the RAMRIS. Following on from work and suggestions for development, at OMERACT 10 we were able to present the results of longitudinal analyses of a reliable PsAMRIS.

REFERENCES
