**MRI Poised to Boost Early Detection of Osteoarthritis**

**BY MITCHEL L. ZOLER**

Magnetic resonance imaging has an increasingly important role in early detection and diagnosis of osteoarthritis, although for now it remains one of several diagnostic tools that also include x-rays, clinical findings, and lab results.

Physicians who treat patients with osteoarthritis (OA) need further research results to better clarify the best use of MRI in early OA detection, said Dr. Philip Conaghan, professor of musculoskeletal medicine at the University of Leeds (England).

In June, Dr. Conaghan and his colleagues on the OA Imaging Working Group for the Osteoarthritis Research Society International (OARSI) issued 11 propositions on using MRI to define OA—propositions that the group said need formal testing “regarding their diagnostic performance before they are more widely used” (Osteoarthritis Cartilage 2011;19:963-9).

The working group clearly endorsed MRI, saying that “MRI may add to the diagnostics of OA and should be incorporated into the [American College of Rheumatology] diagnostic criteria,” but in the same proposition, the working group also reiterated the role of x-ray, clinical, and laboratory parameters. Other propositions caution that “no single MRI finding is diagnostic of MRI,” and that “certain MRI changes in isolation…are not diagnostic of osteoarthritis.”

The working group’s propositions included two MRI-based definitions of OA, for the tibiofemoral form and for the patellofemoral type. In a recent talk on MRI and OA, Dr. Conaghan stressed the potential that MRI holds for early OA detection. “We need to develop an early OA culture,” similar to what has emerged for rheumatoid arthritis, he said speaking in May at the annual European Congress of Rheumatology in London. “In OA, we need a culture of early intervention” that would rely on early detection, most likely using MRI.

“The sheer frequency of MRI lesions in OA patients may prove limiting,” the researchers noted. “Often the MRI changes appear with no radiographic change visible. Other MRI changes that look like promising OA markers are bone marrow lesions and bone shape.”

The OARSI Working Group defined tibiofemoral OA by MRI as either both items from group A, or one group A item and at least two from group B. The group A diagnostic features are definite osteophyte formation and full-thickness cartilage loss. The group B items are a subchondral bone marrow lesion or cyst that is not associated with meniscal or ligamentous attachments; meniscal subluxation, maceration, or degenerative tear; partial-thickness cartilage loss; and bone attrition.

The working group’s definition of patellofemoral OA requires both a definite osteophyte and partial- or full-thickness cartilage loss. Dr. Conaghan said that he had no relevant disclosures.