Fit for Office Use

Imaging *from page 1*

diagnostic facilities and are impractical for day-to-day-use in rheumatology, Dr. Gaylis said in an interview.

What's more is that patients also find these large-magnet high-field machines very uncomfortable, especially since the position that is required for evaluation of the hand—similar to a swimmer's position—is just about intolerable for a patient who has been diagnosed with active rheumatoid arthritis to maintain for any significant length of time, he said.

The recent introduction of smaller, less expensive, in-office MRI units designed for use on the extremities—already popular among orthopedic surgeons—eliminates these obstacles to access and comfort.

Approximately 100 rheumatology centers in the United States now use them.

Studies have shown that the results obtained with these extremity MRIs in the evaluation of rheumatoid hands are equivalent to those obtained with the standard units.

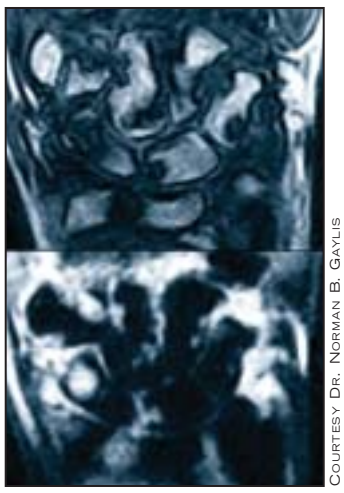
In one study that compared extremity low-field MRI with conventional MRI and radiography, sensitivity and specificity for both types of MRI read by more than one radiologist exceeded 90% (Ann. Rheum. Dis. 2005;64:1280-7).

The American College of Rheumatology (ACR) has remained skeptical about the utility of extremity MRI. In a white paper 2 years ago, the ACR indicated that, in their view, more work needed to be done to establish the validity of extremity MRI for RA.

Two central questions raised by the naysayers, according to Dr. Gaylis, are whether the MRI findings, undetectable using x-rays, are indeed erosions and whether these MRI findings are consistently reproducible from center to center and radiologist to radiologist.

In an editorial titled, "Magnetic Resonance Imaging in the Evaluation of Bone Damage in Rheumatoid Arthritis: A More Precise Image or Just a More Expensive One?" investigators from the National Institute of Arthritis and Musculoskeletal and Skin Diseases of the National Institutes of Health noted that an early study found that when individual MRI lesions were tracked over 2 years, only one of four erosions detected on MRI indeed progressed to become radiographic lesions.

The investigators wrote, "Since the pathophysiologic basis of these 'erosion-like lesions' has not been determined, it is unclear which MRI lesions are destined to become 'radiographic lesions' and what the significance is of those MRI lesions that do not progress to become radiographic erosions" (Arthritis Rheum. 2003;48:585-9).



COURTESY DR. NORMAN B. GAYLIS

T1 (top) and STIR (bottom) images reveal erosions throughout the proximal and distal carpal rows.

An answer to the question of whether MRI-detected erosions and edema are valid signs of early RA, however, was recently shown in a study in which patients scheduled for joint replacement surgery underwent MRI the day before surgery.

Following removal, sequential sections of the joint were analyzed histologically for bone marrow changes. The erosions and edema that had been detected on MRI clearly correlated with inflammation of the bone marrow and synovium (Arthritis Rheum. 2007;56:1118-24).

"Finally, some proof," commented Dr. Gaylis.

Another advantage of using extremity MRI early in disease is to encourage patient adherence to therapy. The situation is very similar to what happened with bone densitometry for osteoporosis, according to Dr. Gaylis.

"When bone density measurement first was available, the only treatment for osteoporosis was calcium as well as the off-label use of medications such as sodium fluoride and etidronate disodium," said Dr. Gaylis.

"Since bone densitometry was introduced, there has been an explosion of new medicines. We also have learned to make the diagnosis earlier and to more closely monitor disease activity, and it has certainly helped with patient compliance," he added.

Patients will be much more inclined to continue taking their medication if they can see concrete results, he added.

That MRI can document the beneficial effects of early treatment also has now been confirmed in a retrospective study involving 48 patients in a single practice who were receiving infliximab.

The patients' mean age was 58 years, and all fulfilled the ACR criteria for RA. The median infliximab dosage was 4 mg/kg, and the majority of patients also were receiving methotrexate in a median dose of 15 mg/week and prednisone in a median dosage of 10 mg/day.

Of the total of 83 baseline MRIs, 64 (in 41 patients) were abnormal.

Follow-up MRIs showed regression of joint erosions in nine metacarpophalangeal joints, in eight carpal bones, and in one metatarsophalangeal joint (Mod. Rheumatol. 2007;17:273-8).

"In-office MRI demonstrates subtle changes in erosion morphology in RA patients at the time of diagnosis and in response to therapy," wrote Dr. Gaylis, who was the lead author of the study.

Reimbursement remains a concern, however. Because the ACR did not endorse extremity MRI for RA, and classified it as an unproven technology, reimbursement has been denied by insurers in many cases.

But this is changing, as more evidence accumulates in the literature and with the establishment of the International Society of Extremity MRI, which will hold its first meeting in the spring of 2008, he said.

And further acceptance can be expected shortly as the new society develops special training courses, as individual sites gain certification, and as the overall quality of services becomes more standardized across the board, according to Dr. Gaylis. ■

Monthly Ibandronate Infusions Helpful for Bone Marrow Edema

BY ALISON PALKHIVALA
Contributing Writer

MONTREAL — Three infusions of the bisphophonate ibandronate given a month apart may be all that is needed to significantly lessen clinical symptoms of bone marrow edema in most patients, according to a poster presented here at the 17th Scientific Meeting of the International Bone and Mineral Society. The treatment also improved signs of disease detected via imaging.

In a study conducted in an ambulatory setting, Dr. Christoph Bartl, of the Technical University of Munich, Germany, and colleagues gave an infusion of 6 mg of ibandronate once a month for 3 months to 42 patients with bone marrow edema (BME) confirmed by magnetic resonance imaging (MRI). The average age of patients was 43 years, and they had been experiencing BME symptoms for a mean of 4.2 months. The BME involved the ankle in 18 patients and the knee in 24. Nineteen of the cases of BME were classified as idiopathic, 13 were posttraumatic, and 10 were secondary to active osteoarthritis or mechanical stress.

The Mazur foot score, the Larson knee score, and a 0- to 10-point visual analog scale (VAS) for pain were used for clinical scoring of the effect of the intervention.

After 3 months, patients' mean VAS score dropped from 7.7 to 2.6. It dropped again to 1.8 at 6 months. Reductions in pain were significant both during rest and while the patients were active ($P = <0.01$).

For patients with affected ankles, Mazur score immediately following surgery was 58; after 3 months of ibandronate therapy, the score increased to 82, and increased to 89.6 after 3 months more ($P = <0.05$). Similarly, for patients with affected knees, Larson score increased from a preoperative 52 to 88 after 3 months of therapy and to 92 after 6 months of therapy ($P = <0.05$).

MRI revealed that 70% of patients experienced a significant reduction in BME size or complete normalization of the affected area with ibandronate treatment. Another 21% showed little or no change with MRI. The final 9% of patients did not undergo follow-up MRI, but three of them experienced significant clinical improvement.

Ibandronate therapy was well-tolerated overall, with 17% of patients experiencing mild acute phase reactions consisting of flulike symptoms within 2 days of receiving an infusion. Most patients—a full 86%—reported that their results with ibandronate were good or excellent. ■

DMARD Combo Works Best in Anti-CCP-Negative Patients

BY JEFF EVANS
Senior Writer

BARCELONA — The treatment of early rheumatoid arthritis with a combination of disease-modifying antirheumatic drugs slows radiographic progression faster in patients without antibodies against cyclic citrullinated peptide than in those patients with the antibodies, Dr. Markku Korpela said at the annual European Congress of Rheumatology.

Compared with anti-CCP-negative patients, those who tested positive for the antibodies also were more likely to test positive for rheumatoid factor.

In a subset of patients from the randomized Finnish RA Combination Therapy (FIN-RACo) trial whose anti–cyclic citrullinated peptide (CCP) status was known, 69 patients were treated initially with a drug combination that included methotrexate, sulfasalazine, hydroxychloroquine, and prednisolone; another 60 patients were treated with sulfasalazine, with or without prednisolone.

The DMARD and prednisolone treatments were allowed to change after 2 years, according to Dr. Korpela, a rheumatologist at Tampere (Finland) University Hospital.Dr. Korpela and his colleagues found that a combination of DMARDs could significantly slow radiographic signs of RA progression (as defined by the Larsen score in hands and feet) in the absence of anti-CCP antibodies, but treatment with a single DMARD could not.

Radiographic RA progression occurred at similar rates in anti-CCP–positive and –negative patients when only one DMARD was used.

"This means that patients without CCP antibodies should be treated aggressively," Dr. Korpela said in an interview during a poster presentation at the congress. Of the 129 patients, 92 (71%) tested positive for anti-CCP antibodies. Compared with anti-CCP–negative patients, those who tested positive for the antibodies also were significantly more likely to test positive for rheumatoid factor (83% vs. 22%) or erosive disease at baseline (54% vs. 22%).

And anti-CCP positivity predicted radiographic progression in the combination-DMARD group even when the investigators adjusted the comparison for the presence of rheumatoid factor. ■

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