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ASK THE EXPERT

Adding Extremity MRI to Your Practice

Extremity MRI is poised to become an important tool in the management of inflammatory arthritis. That was the message from the inaugural meeting of the International Society of Extremity MRI in Rheumatology (ISEMIR).

Studies have shown that low-field dedicated extremity MRI (eMRI) is useful in assessing early rheumatoid arthritis, predicting erosive damage, and monitoring the effectiveness of drug treatment—findings that led Dr. Norman B. Gaylis to predict that in-office eMRI services will eventually become commonplace. “It is going to happen because the technology is too important for it not to,” said Dr. Gaylis, a rheumatologist in private practice in Aventura, Fla., and vice president of the ISEMIR. “Just like bone density scanning and methotrexate were around for years before they were widely accepted, eMRI is here and is being used successfully and will eventually be standard in the management of RA.”

In this month’s column, Dr. Gaylis discusses the clinical and practical benefits of bringing eMRI services into the rheumatology practice.

Rheumatology News: For rheumatologists considering adding eMRI to their practices, what are some considerations?

Dr. Gaylis: One consideration is space. The eMRI machines are obviously much smaller than standard full-body MRI scanners, so they normally only require one normal-size or slightly bigger exam room. In most cases, especially for low-field eMRI, there is no need for a special lead wall, but you do want to have a relatively noiseless environment, because the magnetic waves can be affected by noise. You wouldn’t want to place the machine in a room next to an office with high-frequency equipment, for example.

In terms of practice considerations, it’s important to develop a good working relationship with a radiologist certified in musculoskeletal radiology to whom you can digitally send the scans to be read, which is now very easy to do. It doesn’t make sense for rheumatologists to try to read the scans themselves—doing so would take away time from patients. It’s much more efficient to rely on trained radiologists for this.

RN: What are the advantages—to the patient and the practice—of in-office eMRI?

Dr. Gaylis: One of the primary advantages to patients is the added convenience of being able to have the scans done in the office and not at an outpatient center or hospital. Also, the standardization of the type of MRI

according to the presentation of the patient is important, as it enables more individualized care. The smaller machines are more comfortable, and claustrophobia is not an issue because only the extremity is being scanned. Given the design of the machines, patients

with rheumatoid arthritis are not required to maintain uncomfortable positions. With the smaller machines, the scan time is much shorter as well, at a maximum of 40 minutes per extremity.

In terms of practice advantages, rheumatologists can get the specific kind of information from the eMRI that will enable them to adjust the therapy to the needs of the patient. The early diagnostic capabilities and the ability to measure structural changes or aggressive RA before damage would manifest on x-ray—which could be up to a year after the damage process begins—allow

treatment decisions to be made early. For example, the decision might be made to choose a biologic over and above a disease-modifying antirheumatic drug by virtue of seeing the presence of structural changes occurring. It allows us to see whether a patient should move to a biologic or whether the DMARD is doing its job, potentially saving the patient and the payer the cost of a biologic, and the adverse effects.

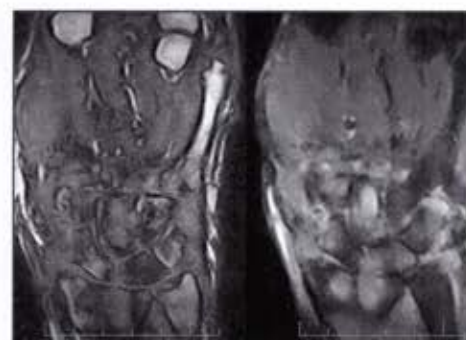
RN: What are some of the implementation challenges?

Dr. Gaylis: In addition to finding the space for the machine, it’s important to research which machine you want. There are a few available, so rheumatologists must determine what fits their practices, negotiate a price, make sure it will fit the room, and so forth. Once you start using it, you find you become dependent on it to certain extent, because you know the findings are much more sensitive than anything clinically or serologically. In the same way that cardiologists have become dependent, in a good way, on echocardiograms to make therapeutic decisions, rheumatologists with access to eMRI become dependent on it.

RN: In terms of accreditation and additional training, what is required?

Dr. Gaylis: A number of insurance companies have started requesting certification by a recognizable body that has been deemed appropriate, such as the American College of Radiology or the Intersocietal Commission for the Accreditation of Magnetic Resonance Laboratories. This is good, as it raises the quality of what is expected from eMRI and can defer criticism of study quality. It will enhance the field of eMRI by virtue of creating a high standard, and ultimately reimbursement will be tied to it.

With respect to training, ideally, you will have a tech-



T1 (left) and STIR (right) images show bone marrow edema throughout the carpal bones and synovitis in the carpus.

IMAGES COURTESY DR. NORMAN B. GAYLIS/DR. STEVEN NEEDLELL

nician with some MRI background. That is not yet mandated. Accreditation does require that the person doing the procedure has significant CMEs and experience in the use of MRI.

RN: How does the eMRI data compare with other imaging modalities?

Dr. Gaylis: Compared with x-ray and ultrasound, eMRI offers more information and detail with respect to erosions and bone edema. Ultrasound is obviously more economical, but it is limited in terms of the information it can provide. Both ultrasound and MRI are better than standard x-ray. In terms of early diagnosis and measure treatment impact, eMRI stands alone. Ultimately, [reliance on eMRI findings] may redefine the concept of remission in RA.

RN: When is eMRI inappropriate?

Dr. Gaylis: Obviously, eMRI cannot be used for anything beyond the extremity. And because it is less sensitive than the large magnet, it does not provide the same level of detail as standard MRI, but it’s more than sufficient for RA. In rheumatology, we do not need the same level of detail that a neurologist might need when imaging the spinal cord or the brain. We need it to detect erosions and bone marrow edema, and eMRI is twice as sensitive as standard radiography for that. ■

DR. GAYLIS is a voluntary clinical associate professor at the University of Miami. He is president and managing partner of Arthritis and Rheumatic Disease Specialties in Aventura, Fla. In addition to membership on the ISEMIR board of directors, he is an editorial advisor to Rheumatology News.

By Diana Mahoney, New England Bureau