Most Pre-Referral Foot, Ankle MRIs Are Useless

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LA JOLLA, CALIF. — Almost 90% of pre-referral foot and ankle MRI scans obtained before evaluation by a specialist were unnecessary, according to results from a single-center study of 201 patients.

MRIs of the foot and ankle are expensive, "and the findings are often immaterial to patients," Dr. Stephen L. Tocci said at the annual meeting of the American Orthopaedic Foot and Ankle Society.

He and his associates in the department of orthopedic surgery at Brown University, Providence, R.I., observed a trend toward evaluating patients with solely a screening MRI for foot and ankle problems. "As soon as a nonnormal report is received, they're referred over to a foot and ankle specialist. Our hypothesis is that MRI is being overutilized in the course of administering foot and ankle care," he said.

To test their hypothesis, the researchers reviewed 221 consecutive new patients who were referred to an orthopedic foot and ankle specialist over a 3-month period for a lower extremity problem. They sought to identify the prevalence of patients presenting with foot and ankle MRI, the percentage of patients that actually required an MRI from the foot and ankle specialist's perspective, and how often the MRI readout from the radiologist correlated with the clinical diagnosis.

The researchers excluded 20 patients who had fractures, leaving 201 nonfracture patients. All MRIs were done within 6 months of the new patient visit, with a minimum of 1 year of treatment follow-up.

The new patient evaluation consisted of a history and physical exam, weight-bearing x-rays, and a review of all prior care. The foot and ankle specialist then made a diagnosis and reviewed any previous MRIs that were taken.

If no previous MRIs were taken, the specialist ordered one only if it seemed necessary for the care of the patient, said Dr. Tocci, of the department of orthopedics at the university.

Of the 201 patients, 31 (15.4%) arrived with an MRI from an outside source and 9 (4.5%) had MRIs ordered by the foot and ankle specialist, for a total of 40 patients (19.9%) who had MRIs during their treatment.

Only 12.9% of the preevaluation MRI scans were considered appropriate, Dr. Tocci said, while the rest (87.1%) were judged unnecessary. "So if all 221 patients had first been seen by the [foot and ankle specialist], then only 5.9% would have had an MRI," he said.

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DR. TOCCI

When the researchers evaluated the MRI reports from the radiologists who took the preevaluation scans, they found that nearly half (48.4%) of the radiologists disagreed with the diagnosis made by the foot and ankle specialist. "They either had a different radiologic interpretation by the clinician, or there was just no correlation with the clinical diagnosis altogether," Dr. Tocci said.

In contrast, all nine MRIs ordered by the foot and ankle specialist were in agreement with the radiologist's interpretation.

Dr. Tocci said that a foot and ankle MRI done at Brown costs about $1,900, while the reading fee costs about $350. In 2005, 84 foot and ankle MRIs were performed at Brown, for a total cost of about $186,000. "If we assume that 87% of these are unnecessary scans, it's a savings of about $162,000 just at our site," he said.

He speculated that some clinicians might use MRI because the technology is accessible, because of potential medicolegal concerns, and possibly because of remuneration issues. He said that patients believe they are getting good care if an MRI is done. "They may even ask for one," he said.

Limitations of the study include its retrospective design and the fact that it's based on the evaluation of a single foot and ankle specialist, whereas multiple radiologists at different sites interpreted results, he said.

"Further studies are needed to define the utility and cost-effectiveness of MRI in foot and ankle care," he said. ■

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