

Misclassifying Spondyloarthritis: MRI Held Risky

BY MITCHEL L. ZOLER

PHILADELPHIA — Using MRI to help classify spondyloarthritis poses a significant risk for error, according to findings from a multicenter study that evaluated 85 MRI scans.

A panel of five rheumatologists and radiologists specially trained in MRI assessment of lesions associated with spondyloarthritis (SpA) in the sacroiliac joint misclassified 6 of 85 cases based on their MRI scans, Dr. Ulrich Weber said at the annual meeting of the American College of Rheumatology.



'MRI will never be 100% accurate for confirming a diagnosis of SpA.'

DR. WEBER

radiography has been the traditional method for classifying SpA, MRI has been increasingly used. MRI's role for classifying SpA solidified in 2009 with the publication of the SpA classification criteria of the Assessment of Spondyloarthritis International Society (ASAS) (Ann Rheum Dis. 2009;68:777-83). In this paper, ASAS said that MRI scans showing "active (acute) inflammation of sacroiliac joints ... highly suggestive of sacroiliitis associated with SpA" could substitute for radiographic evidence when classifying a patient as having SpA.

To examine the consequences of MRI assessment, Dr. Weber and his associates developed a training program to teach rheumatologists and radiologists to identify sacroiliac joint pathology indicative of SpA. The classification criteria focused on four features of active inflammation: bone marrow edema, erosion, fatty infiltration, and ankylosis. They then had a panel of two radiologists and three rheumatologists who underwent training review MRI scans from 59 asymptomatic healthy volunteers and 26 patients with nonspecific back pain of mechanical origin. All subjects were age 45 years or younger.

Among the 59 healthy volunteers, one or more of the panel members misclassified four (7%) as having MRI features indicative of SpA. When reviewing the 26 patients with mechanically induced lower back pain, panel members mis-

classified two (8%) as having SpA.

The error rate was even higher for some of the individual assessment elements. At least two panel members identified some degree of bone marrow edema in 22% of the healthy volunteers and in 38% of the patients with nonspecific, mechanical back pain.

Two panel members scored the bone marrow edema clinically relevant in 12% of the healthy volunteers and in 23% of the patients with mechanically triggered back pain.

Roughly similar mistake rates occurred when the panelists scored the MRIs for bone erosions and for fatty infiltrations.

The physicians who read MRI scans of back pain patients need careful training and clear guidance on what constitutes SpA lesions in sacroiliac joints, according to Dr. Weber.

Disclosures: Dr. Weber said that he and his associates had no financial disclosures relevant to his presentation on SpA and MRI.

Knowing How to Use MRI Is Key

I would agree that the isolated use of an MRI evaluation of the sacroiliac joint would be subject to false-positive error for the diagnosis of ankylosing spondylitis. The value of the MRI findings needs to be used in combination with the other features that are seen with AS, which is why the diagnosis is based upon multiple criteria. Nevertheless, in conjunction with other findings the ability to recognize inflammation of the sacroiliac joint in particular with negative radiographs has been well reported to improve the diagnostic yield significantly.

I would agree that an experienced radiologist needs to interpret the significance of the MRI findings

as is evidenced by Dr. Ulrich Weber's findings. The false positives reported may well have been avoided in experienced radiologist's hands. In fact, sensitivity of MRI is always an issue. That does not mean it is a bad tool. Like driving a race car, you have to know how to handle and interpret the high tech equipment you are utilizing.



DR. GAYLIS

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Chronic Musculoskeletal Pain Raises Risk of Falling in Elderly

BY MARY ANN MOON

Chronic musculoskeletal pain raises elderly people's risk of falling, independent of their underlying pathologies or the medications they may be taking for the pain, according to a study of more than 700 elders living independently.

The finding that pain is "an overlooked and potentially important risk factor for falls" suggests that "the common complaint of aches and pains of old age is related to a greater hazard than previously thought," Suzanne G. Leveille, Ph.D., R.N., of the University of Massachusetts, Boston, and her associates wrote (JAMA 2009;302:2214-21).

"Daily discomfort may accompany not only difficulties in performing daily activities but equally as important may be a risk for falls and possibly fall-related injuries in the older population," the authors wrote.

Dr. Leveille and her colleagues

used data from the MOBILIZE Boston study to identify new strategies for preventing falls. (The study's title stands for Maintenance of Balance, Independent Living, Intellect, and Zest in the Elderly.) The researchers assessed data on 749 men and women aged 70 and older who were living in a variety of urban and suburban settings.

The study participants were evaluated during home and clinic visits at the beginning of the study. The researchers noted the severity and location of musculoskeletal pain, as well as its interference with daily activities. Monthly for up to 18 months thereafter, the participants reported pain symptoms and all falls on postcards.

This study design enabled the researchers to track the risk of falls over time in relation to baseline chronic pain and pain reported periodically.

Overall, 40% of the study subjects reported chronic polyartic-

ular pain, and another 24% reported chronic pain in just one joint area. A total of 1,029 falls occurred during follow-up, with 405 subjects (54%) falling at least once during the study.

Compared with participants who did not report chronic pain, those who did had a significantly higher rate of falls, regardless of whether their pain was measured by location, severity, or degree of interference with daily life, Dr. Leveille and her colleagues said.

Chronic pain was persistently associated with fall risk after the data were adjusted to account for coexisting chronic conditions, other risk factors for falling, baseline balance and mobility, the use of psychotherapeutic medications, and the use of analgesics.

There also was a strong, graded relationship between monthly pain-severity ratings and the risk for falling during the subsequent month.

"For example, among persons who reported severe or very severe pain for any given month on their calendar postcard, there was a 77% increased likelihood for a fall in the subsequent month, compared with those who reported no pain," the investigators said.

"Persons reporting even very mild pain also had an elevated risk of falling in any given month," they added.

There are three possible mechanisms underlying the link between pain and falling, according to the researchers. First, joint pathology may cause both pain and the instability that can lead to falling.

However, Dr. Leveille and her colleagues deemed that explanation unlikely because the association in this study was independent of hand and knee osteoarthritis and of mobility.

Second, the neuromuscular effects of pain could cause muscle weakness, slowed

responses to an impending fall, or gait alterations, all of which can lead to falling. Third, said the researchers, chronic pain may distract patients or otherwise interfere with the cognitive activity needed to prevent falling.

Other studies have shown that patients with chronic pain show decreased executive function and attention. Moreover, avoiding or interrupting a fall "typically requires a cognitively mediated physical maneuver," Dr. Leveille and her associates noted.

A randomized controlled trial might determine whether improved pain control could reduce the risk for falling in elderly patients, the researchers said.

Disclosures: Dr. Leveille reported no financial conflict of interest. The MOBILIZE Boston study was supported in part by a grant from Pfizer Inc.