

Positive sacroiliac MRI scans often observed among healthy people and frequent runners

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While magnetic resonance imaging (MRI) scans of the sacroiliac joints positive for inflammation are not always specific in patients with axial spondyloarthritis (axSpA), their prevalence in healthy individuals demonstrates the importance of additional diagnostic measures for axSpA, according to new research findings presented this week at the 2017 ACR/ARHP Annual Meeting in San Diego.

Axial spondyloarthropathy (axSpA) is an inflammatory disease with low back [pain](#) as its main symptom. Spondyloarthritis (SpA) can also affect the arm and leg joints, and organs like the skin, eyes or intestines. Inflammation often affects the sites where ligaments and tendons attach to bones. People in their teens and 20s, especially young men, are most commonly affected.

Researchers in the Netherlands and other institutions around the European Union (EU) conducted a study to compare MRI scans of the sacroiliac joints of healthy individuals in comparison to those with both axSpA and back pain.

"Sacroiliac MRI has become an important aid in diagnosing SpA, since sacroiliac joint inflammation and damage are hallmarks of this disease. Unfortunately, physicians all too often pay too much attention to a positive MRI, and consider it a decisive feature in the diagnosis. We have learned that sacroiliac MRI can also be positive in unaffected, or healthy, individuals. This study was started in order to provide an estimate of positive sacroiliac MRI in the healthy population, so that we

can better appreciate a positive MRI in the context of a patient presenting with symptoms of SpA," said Robert Landewé, MD, PhD, Professor of Rheumatology at the University of Amsterdam in the Netherlands, and a lead author of this study.

For the study, three trained, blinded readers randomly scored MRI scans of the sacroiliac joints in 172 people: 47 healthy individuals; 47 gender- and age-matched axSpA [patients](#) from the SPondyloArthritis Caught Early (SPACE) cohort with confirmed, positive MRI; 47 age- and gender-matched [chronic back pain](#) patients irrespective of MRI results; seven women with postpartum back pain lasting several months; and 24 frequent runners. Readers scored the MRI scans according to the Assessment of Spondyloarthritis (ASAS)/Outcome Measures in Rheumatology (OMERACT) and the Spondyloarthritis Research Consortium of Canada (SPARCC) definitions. The SPARCC scores were the mean results from all three readers.

The three readers agreed in 75.6-79.9 percent of the cases on the presence or absence of bone marrow edema (BME), and their SPARCC scores also correlated well. Of the healthy individuals, 11 out of 47 had a positive MRI, compared to 43 out of 47 of the axSpA patients and three out of 47 chronic back pain patients. In addition, three out of 24 frequent runners and four out of seven women with postpartum back pain had positive sacroiliac MRI results.

Mean SPARCC scores were 1.7 for the healthy individuals, 20.9 for the positive axSpA patients, 0.8 for the chronic back pain patients, 0.8 for the frequent runners and 4.5 for the women with postpartum back pain. When a SPARCC score of two or higher was used as a cut-off for positivity, 12 out of 47 healthy individuals, 46 out of 47 positive axSpA patients, five out of 47 chronic back pain patients, four out of 24 runners, and four out of seven women with post-partum back pain were declared positive. When a SPARCC score of five or greater was used,

only four of 27 healthy individuals, 41 out of 47 positive axSpA patients, one out of 47 chronic back pain patients, no runners and two out of seven women with postpartum back pain were positive.

Deep BME lesions were not found in the healthy individuals, chronic back pain patients or frequent runners, but were found in 38 out of 47 positive axSpA patients and one out of the seven women with postpartum back pain, so these lesions seem to be exclusive of sacroiliitis in axSpA patients, the researchers concluded. A substantial number of healthy people have positive sacroiliac MRI results, according to these findings.

"This study provides an estimate of how frequently positive sacroiliac MRIs can be found in individuals without SpA, or specificity," said Dr. Landewé. "Rheumatologists now better realize that they cannot make a diagnosis of SpA solely based on a positive MRI."

Provided by American College of Rheumatology

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