Synovitis Persists in RA Patients in 'Remission'

VITALS

Major Finding: Among RA patients in remission, only 9% with DAS28 scores less than 1.17 were found to be free of synovitis on power Doppler imaging; among patients with correspondingly low SDAI scores, just 25% had similarly clear scans, with the remainder showing some degree of inflammation.

Data Source: A cohort of 128 outpatients seen at a clinic in Leeds, England.

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FROM ANNALS OF THE RHEUMATIC DISEASES

Applying more stringent remission thresholds among rheumatoid arthritis patients lowered the percentage of those with lingering swollen and tender joints; however, the proportion of patients with synovitis on power Doppler ultrasound remained unchanged.

"Therefore, as clinical criteria cannot exclude the presence of active disease, the current remission criteria are more appropriate for defining low disease activity states," concluded Dr. Benazir Saleem and colleagues.

According to the investigators, patients who are currently judged by American College of Rheumatology and European League Against Rheumatism criteria to be in remission – with a DAS28 (disease activity score based on a 28-joints count) less than 2.6 – may still have tender and swollen joints, and corresponding structural progression of disease.

It may therefore be expected that more stringent criteria – that is, the use of lower cut-points for DAS28/SDAI (Simplified Disease Activity Index) to define remission – "would be associated with less … imaging-detected synovitis," postulated Dr. Saleem, a clinical research fellow at the University of Leeds (England) and colleagues (Ann. Rheum. Dis. 2011;70:792-8).

"This would, for example, permit fewer (ideally zero) tender and swollen joints to be present in patients in remission, and thus there would be a better correlation with the absence of structural progression," according to Dr. Saleem and coauthors.

To test this theory, the researchers looked at 128 outpatients from the Chapel Allerton Hospital in Leeds who had DAS28 scores less than 2.6. Patients' mean age was 54 years, and the median disease duration was 8 years.

All study participants had been in remission for a period of at least 6 months. Roughly half of them had achieved remission through the use of disease-modifying antirheumatic drugs; the remainder had been treated with a regimen consisting of combination tumor necrosis factor blocker and methotrexate (45% infliximab, 45% etanercept, and 10% adalimumab).

Overall, a total of 31% of these patients who were classified as being in remission still had swollen joints, and 18% reported tender joints. In addition, more than half of the patients (51%) had synovitis that was detectable on power Doppler ultrasound, which is considered the "gold standard" of imaging for synovitis.

Dr. Saleem then divided the patients into four subcategories: In all, 32 patients had a DAS28 less than 1.17; 31 had a score of 1.17-1.70; 32 patients registered a DAS28 of 1.71-2.03; and the remaining 33 patients had a DAS score greater than 2.03.

"As was to be expected, both swollen joint count in 28 joints [*P* less than .001] and tender joint count in 28 joints [*P* less than 0.001] decreased with decreasing DAS28," Dr. Saleem and coinvestigators wrote.

However, the proportions of patients in imaging remission did not have a corresponding consistent decrease; indeed, only 9% of those in the lowest category were in strict imaging remission (defined as no joints showing synovitis in the dominant hand's metacarpophalangeal joints 2-5, plus the wrist, according to gray scale and power Doppler ultrasound).

The stratification of the study participants into increasingly stringent SDAI categories resulted in a similar, predictable decrease in the number of swollen and tender joints as the score decreased.

The rheumatologic equivalent of true remission would 'not rely solely on clinical examination but would require imaging to confirm the absence of subclinical inflammation.'

However, only 25% of those in the lowest SDAI category (score less than 1.51) were in strictly defined imaging remission.

"The use of the term remission in other areas of medicine implies the absence of active disease," wrote the researchers.

The rheumatologic equivalent of this true remission "would therefore not rely solely on clinical examination but would require imaging to confirm the absence of subclinical inflammation," according to Dr. Saleem and coinvestigators.

And although the widely used, easy-to-calculate DAS28 is a good tool, it is "insufficiently sensitive to exclude [clinically important] levels of inflammation," they concluded.

The relevance of this finding is not clear, because "the threshold level of ultrasound-determined inflammation that is of importance for subsequent clinical and radiographic progression has not yet been established," according to the investigators. ■