Quick Rheumatoid Arthritis Assessment With RAPID3

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Used with or separate from traditional measures, this tool can obtain a fast assessment of remission.

If the ultimate goal of treatment for patients with rheumatoid arthritis is remission, how should remission be evaluated? According to a new study, the Routine Assessment of Patient Index Data 3 (RAPID3) might serve as an alternative because it’s similar to established measures in its predictive ability.

An American College of Rheumatology/European League Against Rheumatism (ACR/EULAR) task force proposed 2 definitions for evaluating remission:
(1) the Boolean-based definition, which requires a swollen joint count (SJC), a tender joint count (TJC), a patient global visual analog scale (VAS) score, and C-reactive protein level (CRP, mg/dL) all ≤ 1.
(2) the Simplified Disease Activity Index (SDAI), based on a composite index of rheumatoid arthritis activity, including SJC, TJC, patient global VAS score, physician global VAS score, and CRP level (mg/dL) ≤ 3.3.

Even with these validated methods for measuring remission, many rheumatologists still do not regularly measure disease activity, possibly because of the added time and expense required to obtain formal joint counts and laboratory assessments.

RAPID3 might be a good option because it requires only patient input and can be completed quickly, hypothesized researchers led by Muznay N. Khawaja, MD, of Mercy Catholic Medical Center in Darby, Pennsylvania. They evaluated the performance of RAPID3, with and without minimal joint count, versus the Boolean and SDAI remission definitions in the current study, writing in Arthritis Care & Research.

The study
The study used data from the Tocilizumab Safety and the Prevention of Structural Joint Damage (LITHE) study, a 2-year, double-blind, phase III study of tocilizumab in patients with moderate to severe rheumatoid arthritis who had inadequate responses to methotrexate therapy. Patients were randomly assigned to receive intravenous placebo and methotrexate, 4 mg/kg tocilizumab and methotrexate, or 8 mg/kg tocilizumab and methotrexate, and were excluded if they had serious concomitant diseases; 690 patients had sufficient data at the end of year 2 to be included in this analysis.

RAPID3 is a pooled index of the 3 patient-reported ACR rheumatoid arthritis core data set measures: function, pain, and patient global estimate of status. Each of the 3 individual measures is scored 0 to 10, for a total of 30, and remission was defined as RAPID3 score ≤ 3. Using the LITHE study population, researchers performed analyses to assess associations between various year 1 measures and good radiographic plus functional outcome at year 2.

The findings
The findings suggest that RAPID3, with or without minimal joint count, predicts remission as defined by the ACR/EULAR task force. The data in the LITHE study also demonstrated that RAPID3 was a more accurate predictor than SDAI. Thus, the authors claim the RAPID3 may be a useful tool for obtaining a patient assessment of remission, whether used in combination with or separate from traditional measures of disease activity.

Of note, RAPID3 and the proposed remission definitions contain a functional component that might confound the analyses, favoring the RAPID3. In addition, the data are derived from a single study, with inclusion and exclusion criteria that may not be used in clinical practice. Also, the population studied was 83.5% female, so the influence of sex on RAPID3 remission may be another limitation.

Implications for physicians
Because of time constraints and resource limitations, the authors emphasized the importance of flexibility in tailoring disease activity assessments. More studies are needed to confirm the findings,
but the results represent the first validation of RAPID3 remission as an alternative to the established Boolean and SDAI remission definitions.

“Increasing the number of physicians who measure and use disease activity measurements in their practices (i.e., implementing treat-to-target) by making the measures easier to use with the aid of RAPID3 may help improve patient outcomes,” the authors concluded.

Conversely, a letter to the editor from Drs Joshua F. Baker and Michael D. George, also published in Arthritis Care & Research, expressed concern that the results may mislead providers about the predictive value of the RAPID3 as a biomarker of disease activity. The study authors implied that a low RAPID3 score is highly predictive of a good 2-year radiographic outcome, but Drs Baker and George pointed out that associations with the composite outcome may be driven primarily by the disability component.

“Even more problematic,” their letter suggested, “the RAPID3 can be affected by comorbid conditions such as obesity, fibromyalgia, and osteoarthritis, which are associated with higher pain and worse disability.” Although recognizing these biases may also affect the patient global scores that are a part of Boolean and SDAI remission measures, the doctors maintained the study does not necessarily suggest that an elevated RAPID3 should lead to changes in immunosuppressive treatment, the relevant clinical question.

Writing on behalf of his coauthors, Dr Martin J. Bergman responded in another letter to the editor in Arthritis Care & Research. He argued that the findings on the composite outcome are supported by a previous post hoc analysis that demonstrated the ability of the RAPID3 to predict the progression of structural joint damage at 1 year in patients with rheumatoid arthritis treated with certolizumab.

Dr Bergman agreed that comorbid conditions may present a potential confounder and acknowledged the need for a validated outcome that does not include a functional component but argued that these issues do not detract from the results. Such bias would tend to increase the chances of the RAPID3 showing patients not in remission when they actually are, but showing patients to be in remission when they actually are not is unlikely.

Although further supporting studies are warranted, Dr Bergman maintained that the use of the RAPID3 remission as an alternative to the established Boolean or SDAI remission definitions may aid in the clinical decision-making process without the need for assessment of joint count.

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References:


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