

Let's not fool ourselves. In RA, the ACR/EULAR remission criteria are not perfect!

We were interested to read Dr Boer's recent eLetter,¹ in which he outlines the merits of the American College of Rheumatology (ACR) and European League Against Rheumatism (EULAR) 2011 consensus remission criteria in rheumatoid arthritis (RA),² and proposes that this definition equates with absence of disease.

The 2011 ACR/EULAR remission criteria do indeed hold several benefits over composite index-based remission definitions such as the disease activity score in 28 joints (DAS28). The ACR/EULAR criteria are widely regarded to be more stringent at defining remission than DAS28-erythrocyte sedimentation rate (ESR) <2.6, supported by a stronger correlation with lower rates of radiographic progression in the ACR/EULAR definition.² Furthermore, the ACR/EULAR criteria were developed by consensus agreement among a panel of international RA experts with the express aim of defining remission, whereas DAS28 was developed with the primary intention of measuring disease activity for the purposes of treatment escalation. Although representing a significant international advance in defining remission, it is nevertheless important to acknowledge the several limitations inherent to the ACR/EULAR remission criteria.

First, the ACR/EULAR criteria are based on 28 joint counts that exclude important joint areas; for example, the feet—this shortcoming is described in the original ACR/EULAR criteria publication. Second, the ACR/EULAR Boolean criteria place a strict threshold on patient global assessment of $\leq 1/10$ on a visual analogue scale (VAS) as an absolute requirement for remission. While such a low VAS may be achievable in patients in the controlled clinical trials in which the ACR/EULAR criteria were validated, it is becoming increasingly apparent that patient VAS can be influenced by non-RA factors including osteoarthritis and other medical comorbidities. Indeed, several groups now suggest that the VAS threshold in ACR/EULAR Boolean remission may be overly strict and underdiagnose remission when used in 'real-world' clinical practice.^{3–5} In this regard, it is interesting to note that in the original publication of the ACR/EULAR remission criteria, the consensus survey of expert opinion centred on a higher patient VAS threshold of 2.2/10 when all other parameters were consistent with remission.

Third, ACR/EULAR remission criteria neglect measures of synovitis by imaging modalities such as ultrasound (US) and MRI—arguably a more stringent measure of joint inflammation than clinical examination alone. Although ACR/EULAR remission has been shown to correlate with lower levels of US synovitis compared with DAS28,⁶ we and other groups have demonstrated that power Doppler synovitis can still be detected in patients who satisfy ACR/EULAR remission criteria, with a prevalence as high as 60%.^{7,8}

Fourth, ACR/EULAR remission appears to afford no clear advantage over DAS28-based definitions when applied to the identification of patients in remission who can successfully reduce or even stop their disease-modifying antirheumatic drug (DMARD) therapy. In the Reduction of Therapy in patients with Rheumatoid arthritis in Ongoing remission (RETRO) study, Boolean ACR/EULAR remission at baseline did not predict sustained DMARD-free remission,⁹ whereas both

autoantibody status and serum cytokine levels provided added value in identifying patients whose disease flared following DMARD withdrawal.¹⁰

In conclusion, while we acknowledge and support the vital work to reach an international consensus on defining RA remission, this is by no means a *fait accompli*. ACR/EULAR remission does not always equate with absence of disease and is not necessarily the optimal definition for application in clinical practice, particularly in non-research settings. There is an urgent need for robust and practical biomarkers that can better measure RA remission which, once discovered and validated, could be used to improve future definitions of RA remission.

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Competing interests None.

Provenance and peer review Not commissioned; internally peer reviewed.



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To cite Baker KF, Pratt AG, Thompson B, *et al.* *Ann Rheum Dis* 2017;**76**:e12.

Accepted 9 November 2016

Published Online First 1 December 2016

Ann Rheum Dis 2017;**76**:e12. doi:10.1136/annrheumdis-2016-210797

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