GRAPPA Responder Index Project (GRACE): A Report from the GRAPPA 2011 Annual Meeting

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ABSTRACT. The Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA) established the GRAPPA Composite Exercise (GRACE) to compare existing and emerging composite disease activity and responder measures. At the GRAPPA 2010 annual meeting, initial results from this project were presented, and voting on available measures took place. At the GRAPPA 2011 meeting, further comparisons of new and existing measures were made, along with an outline plan for further work. (J Rheumatol 2012;39:2196–7; doi:10.3899/jrheum.120822)

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The Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA) established the GRAPPA Composite Exercise (GRACE) to compare existing and emerging composite disease activity and responder measures. At the GRAPPA 2010 annual meeting, initial results from this project were presented, and voting on available measures took place. At the GRAPPA 2011 meeting, further comparisons of new and existing measures were made along with an outline plan for further work.

Psoriatic arthritis (PsA) may manifest in a number of different ways involving musculoskeletal and cutaneous organs, as well as comorbid involvement of ocular and cardiovascular systems. Although not all these clinical features may occur simultaneously, it is important to be able to record disease in them all in order to assess their impact on the patient and the response to treatment.

A composite measure is one way of assessing all relevant clinical outcomes in a single instrument. By definition, it incorporates several dimensions of disease status, often by combining these different domains into a single score. In rheumatoid arthritis (RA), the composite Disease Activity Score (DAS) has emerged as a useful tool in obtaining an estimate of disease activity incorporating articular assessments, patient global health, and an acute-phase response[1]. The DAS can act as a disease state variable, reflecting articular disease activity at that moment in time, or as a responder index, reflecting change in disease activity over time. As a disease state variable, cutoffs for remission (low, medium, and high disease activity) can be obtained. Although capturing patient global health, the DAS primarily reflects disease activity related to joint disease and does not reflect extraarticular features. On the other hand, the American College of Rheumatology (ACR) outcome measure can function only as a responder index, as it measures the degree of improvement over time[2]. Unfortunately, the ACR20 response (20% improvement in ACR criteria) has become the yardstick by which to measure improvement of PsA disease status in clinical trials of new drugs although it is derived from RA and does not assess the full spectrum of psoriatic disease. The ACR responder index measures improvement in tender and swollen joint counts plus improvement in at least 3 of the following 5 measures: acute-phase reactant, patient global assessment of disease activity by visual analog scale (VAS), physician global assessment of disease activity by VAS, pain by VAS, and physical function using the Health Assessment Questionnaire (HAQ).

Recently, other composite disease activity measures have emerged. The DAPSA (Disease Activity index for PSoriatic Arthritis) was developed from a clinical cohort[3] and validated using clinical trial data[4], but mainly assesses the articular domain. The CPDAI (Composite Psoriatic Disease Activity Index) is a domain-based approach assessing up to 5 domains: peripheral joints, skin, entheses, dactylitis, and spinal manifestations[5]. For each domain, instruments are used to assess both the extent of disease activity and the effect of involvement in that domain on patient function and health-related quality of life (QOL).

The GRAPPA Composite Exercise (GRACE) project

The process of developing a composite measure for psoriatic disease has been reported[6]. In brief, data were collected

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on 503 patients at baseline, some of whom were undergoing treatment change for uncontrolled disease activity. These patients were followed for 12 months; at each timepoint (3, 6, and 12 mo), a wide range of patient-completed measures and clinical assessments were performed.

Two new measures were derived from these data. The first was a weighted index incorporating patient and physician assessments of global disease activity, tender and swollen joint counts, dactylitis and enthesitis, and the physical subscale component of the Medical Outcome Study Short-Form 36, a QOL instrument. The second new index was based on cutoffs for domains such that individual desirability functions[7] could be derived and combined into one function to represent a composite index. The domains in this index included swollen joint count, tender joint count, patient skin VAS, patient joint VAS, patient global VAS, the HAQ, the PsAQoL (PsA-specific QOL instrument)[8], and the Psoriasis Activity and Severity Index (PASI)[9].

Comparison of Composite Indices

New and existing indices were compared for their ability to discriminate between active and inactive disease, including subgroups of oligoarthritis and severe skin involvement, and in the magnitude of change at 3 months for those patients undergoing treatment change. Overall, the newly derived indices performed better, although all measures adequately discriminated disease activity. When the analysis was confined to those patients with severe skin involvement, the superiority of those indices that included this component was evident. Given the nature of the new composite indices, further data were presented on cutoffs for disease activity states based on anchor questions included in the clinical record form. The proportion of patients in each of these disease activity states was compared between active and inactive disease, demonstrating a significant difference between the 2 groups.

The performance of new and existing measures must now be examined in interventional trial data. It is envisaged that adoption of such a measure by rheumatologists will precede incorporation into guidance, for example, on treatment with tumor necrosis factor inhibitors.

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