New way of classifying rheumatoid arthritis aimed at identifying the disease earlier

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The American College of Rheumatology today announced the release of revised classification criteria (created in collaboration with the European League Against Rheumatism) for rheumatoid arthritis, which will allow the study of treatments for RA at much earlier stages of the disease—before joint damage occurs—ultimately leading to better patient outcomes.

Rheumatoid arthritis is a chronic disease that causes pain, stiffness, swelling, and limitation in the motion and function of multiple joints. Though joints are the principal body parts affected by RA, inflammation can develop in the organs as well. An estimated 1.3 million Americans have RA, and the disease typically affects women twice as often as men.

Classification criteria are the standard and accepted means by which researchers define a disease. They allow researchers to define individuals as having or not having a given disease, helping to standardize recruitment into clinical trials and other research studies. Although not intended as criteria for diagnosis in clinical practice, with some additional research, classification criteria may be modified and adopted for such use.

Classification criteria are typically updated as knowledge changes, which is the case with the new RA criteria - published in the College's journal, *Arthritis &* Rheumatism. The previous criteria were created in 1987. Since that time, new therapies have emerged that can prevent joint damage in people with RA. With these modern therapies, the goal of

treatment is to prevent people from reaching the point where their RA is causing chronic damage to their joints.

"The 1987 criteria actually posed a major barrier to the study of treatments designed to prevent joint damage in RA," explains Gillian Hawker, MD; senior author of the new criteria. "Many patients did not fulfill the previous RA classification criteria until their disease was well-advanced, and—in many cases—joint damage had already occurred. This truly limited RA researchers from studying the disease at its earlier phases, which is critical to the development of new treatments to prevent damage."

In 2008, the ACR began a collaborative project with the EULAR to create the first new set of RA classification criteria in over 20 years. To establish the new criteria, researchers completed three phases of work. The first phase (led by EULAR) involved reviewing existing data collected from patients with early arthritis to determine which factors best identified patients who were, according to Daniel Aletaha, MD, MS; lead author of this phase of research, "at a high risk of developing the more persistent and erosive arthritis that we currently consider to be RA." Dr. Aletaha also explains that this phase of research is an important component to the overall project as "all classification criteria need to be built on scientific evidence, either from the literature or—as with these criteria—from extensive analysis of real patient data."

The second phase of work (led by the ACR) was aimed at reaching consensus among practicing rheumatologists on which factors were most important in determining a person's likelihood of developing the chronic joint damage that has been known for many years as the hallmark of RA. "Both scientific evidence and the experience of RA experts needed to be considered in the development of the new criteria to ensure all important factors were identified," explains criteria author Tuhina Neogi, MD, PhD. "Additionally, ensuring the new criteria reflects the opinions of

front-line rheumatologists diagnosing and treating patients in clinical practice is key to their ultimate acceptance."

In phase three, researchers integrated the findings from the first two phases of work, refined a scoring system, and determined the optimal cut off point to define the disease. Patients to whom these criteria should be applied must have confirmed presence of joint swelling, indicating synovitis—the inflammation of the synovial membrane, which lines a joint—in at least one joint, and no other possible diagnosis that might better explain the symptoms (such as lupus or gout).

"To be classified as having 'definite RA,' patients must receive a score of six or greater (out of a possible 10)," explains Alan Silman, MD who initiated the project. "The scoring system takes into consideration the number and site/size of involved joints, laboratory tests of inflammation and auto-immunity, and symptom duration."

Researchers continue to make great strides in RA research. The creation of this new set of classification criteria is expected to further accelerate the research being done in this field. The next logical step, according to Dr. Hawker, is to use these classification criteria as the basis for the development of diagnostic criteria for RA, for use by practicing rheumatologists.

"Under the correct circumstances, new knowledge resulting from rheumatology research can quickly move into applicable treatments for patients," explains ACR President Stanley B. Cohen, MD. "We believe these new classification criteria will open the door to more meaningful studies of RA and will eventually lead to changes in the diagnosis and treatment of the disease. This is an important step for RA researchers, practicing rheumatologists and patients."

 More information: "2010 Rheumatoid Arthritis Classification

Criteria: An American College of Rheumatology/European League Against Rheumatism Collaborative initiative." Daniel Aletaha, Tuhina Neogi, Alan J. Silman, Julia Funovits, David T. Felson, Clifton O. Bingham, III, Neal S. Birnbaum, Gerd R. Burmester, Vivian P. Bykerk, Marc D. Cohen, Bernard Combe, Karen H. Costenbader, Maxime Dougados, Paul Emery, Gianfranco Ferraccioli, Johanna M. W. Hazes, Kathryn Hobbs, Tom W. J. Huizinga, Arthur Kavanaugh, Jonathan Kay, Tore K. Kvien, Timothy Laing, Philip Mease, Henri A. Ménard, Larry W. Moreland, Raymond L. Naden, Theodore Pincus, Josef S. Smolen, Ewa Stanislawska-Biernat, Deborah Symmons, Paul P. Tak, Katherine S. Upchurch, Jirˇí Vencovsky´, Frederick Wolfe, and Gillian Hawker. Arthritis & Rheumatism; Published Online: August 9, 2010 (DOI: 10.1002/art.27584); Print Issue Date: September 2010.

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