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This Week's Citation Classic®

Tan E M, Cohen A S, Fries J F, Masi A T, McShane D J, Rothfield N F, Schaller J G, Talal N & Winchester R J. The 1982 Revised Criteria for the Classification of Systemic Lupus Erythematosus. *Arthritis Rheum.* 25:1271-7, 1982.
[Scripps Clinic and Res. Fdn., La Jolla; Stanford Univ. Sch. Med.; Stanford Univ., Palo Alto; VA Med. Or., San Francisco, CA; Boston City Hosp., MA; Univ. Illinois Coll. Med., Peoria, IL; Univ. Connecticut Sch. Med.. Farmington, CT; Univ. Washington, Seattle. WA; and Hosp. Joint Diseases, New York, NY]

This paper was an update of the original 1971 lupus criteria' and was constructed with the objectives of critically analyzing the performance of the old criteria and incorporating new immunologic knowledge. Compared to the 1971 criteria, the 1982 revised criteria showed gains in sensitivity and specificity for defining lupus against other related systemic autoimmune rheumatic diseases. [The *SCI*® indicates that this paper has been cited in more than 2,700 publications, making it the most-cited paper published in this journal]

Lupus—A Need for Criteria

Eng M. Tan
W.M. Keck Autoimmune Disease Center
Scripps Research Institute
La Jolla, CA 92037

The high citation rate of the 1982 revised criteria for the classification of lupus is perhaps related to two factors. One is the long-standing interest of many clinical and basic science investigators in mechanisms which Induce and perpetuate the many immunological and clinical manifestations of a disease which is regarded as the prototype of systemic autoimmune disorders. The other is the protean clinical expression presenting as afflictions of different organ systems which may appear at different times during the natural course of the disease. The latter feature dictates the need for a set of guidelines which defines what lupus is, so that when authors submit their papers for publication, reviewers will be persuaded that the populations under study are bona fide lupus. Most authors citing the 1982 criteria appear to have used them in this way.

The 1971 criteria,[1] also a *Citation Classic*®, were based on data collected in the 1960s. in the decade following 1971, there was a tremendous accumulation of new knowledge concerning the Immunological abnormalities in lupus, especially with respect to autoantibodies to intracellular antigens (commonly referred to as antinuclear antibodies—ANAs) which were being used Increasingly as disease markers. The 1982 criteria included a number of these autoantibodies as independent items in the criteria set.

The 1982 revised criteria were the product of the American College of Rheumatology (formerly American Rheumatism Association), which has been a leader in defining criteria for many rheumatological disorders. Eighteen medical centers selected for their expertise in lupus participated. These centers were asked to contribute clinical and laboratory data on a specified number of lupus patients and on the same number of rheumatic disease controls. The accumulated data were analyzed by the criteria committee, using the sophisticated computer-assisted data analysis capabilities at Stanford University. There were many hours of discussion devoted to whether the presence of ANAs should or should not be a required and necessary criteria item. In the end, it was decided that the presence of ANAs should be one of 11 independent criteria items and not a necessary item, based on the position of some, but not the majority, of committee members that there might be a very small number of lupus patients who are ANA-negative. This question has still not been totally resolved. There were other data such as complement titers and skin and kidney biopsies which could not be adequately analyzed partly because information was available only from a minority of contributing centers.

Another decade has passed since the 1982 revised criteria were established, and with the abundance of information on lupus coming from continuing clinical studies and the totally new information defining ANAs in molecular terms, the time has come to consider another update. There have been many recent studies on classifying severity of disease activity,[2-5] and perhaps a new approach can be taken to define systemic lupus erythematosus not only in terms of what it is, but also in how to use its distinctive features to classify disease activity. With the new complexities which need to be addressed, the task will not be easy, but it Is safe to say that a new revised criteria will also make it to the company of *Citation Classics.*

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2. **Liang M H, Socher S A, Roberts W** N **& Esdaile J M.** Measurement of systemic lupus erythematosus activity in clinical research. *Arthritis Rheum.* 31:817-25, 1988.
3. **Symmons D P M, Coppoek J S, Bacon P A, Bresnihan B, Isenberg D A, Maddison P, McHugh N, Snailh M L & Zoma A** S. Development and assessment ofa computerized index of clinical disease activity in systemic lupus erythemalosus. *Quart. J. Med.* 69:927-37, 1988.
4. **Bombardieri C, Gladman D D, Urowitz M B, Canon D & Chang** C **H.** Derivation of the SLEDAI: a disease activity index for lupus patients. *Arthritis Rheum.* 35:630-40, 1992.
5. **Petri M, Hellmann D & Hochberg M.** Validity and reliability of lupus activity measures in the routine clinical setting. *J. Rheumatol.* 19:53-9, 1992.

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