Relationship Between Antinuclear Antibodies, DNA Binding Capacity, and Electroprecipitation, Serum Complement Level, and the Presence of Soluble Complexes in Systemic Lupus Erythematosus and Rheumatoid Arthritis. G. D. Johnson, I. I. Onyewotu, and E. J. Holborow (MRC Rheumatism Unit, Canadian Red Cross Memorial Hospital, Taplow, Maidenhead, Berks.)

Serum from 88 patients thought likely to have circulating soluble complexes were examined. The underlying clinical disorders varied from established SLE through probable SLE, rheumatoid arthritis with complications (particularly cutaneous vasculitis) to seronegative arthritis and miscellaneous medical conditions. This paper reports only the serological correlations.

The presence of antinuclear antibodies detectable by immunofluorescence, ANA (Holborow and Johnson, 1969), was associated with electroprecipitating antibody to DNA (Johnson, Edmonds, and Holborow, 1973) and high levels of soluble complexes (Onyewotu, Holborow, and Johnson, 1974), but not with increased DNA-binding capacity and reduced C3 levels. This suggests that antibody avidity may have an important role in the procedures employed. Results of the soluble complex tests, however, were correlated with all the other serological findings except in SLE in which condition ANA positivity was independent of the level of complexes. It is therefore apparent that the ANA test alone does not provide an adequate screen for other serological abnormalities in the group of diseases studied. All possible combinations of results of the tests for DNA-binding capacity and electroprecipitating activity were obtained with serum from patients with SLE and complicated RA who had positive ANA tests and significant levels of circulating complexes. This finding accorded with the clinical overlap seen in the cases selected for study.

A better understanding of the contribution of immune complexes to connective tissue disease may be achieved by the use of the five tests reported here.

References


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