Autoantibodies in a Systemic Sclerosis Cohort

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Introduction

Systemic sclerosis is a complex multi-system autoimmune disorder characterised by fibrosis of the skin and multiple organs. Scleroderma patients are classified into two main subsets as diffuse cutaneous and limited cutaneous depending on the severity of the internal organ involvement and the areas of skin fibrosis. Autoantibodies found in scleroderma patients has a significant value in diagnosis and prognosis. They are associated with distinctive clinical subsets, specific patterns of organ involvement (2). Some of the more specific SSc related autoantibodies are anti-Scl70, anti-centromere, anti-RNA polymerase III, anti-U3RNP, anti-Thy/T0. Autoantibodies which are present in other rheumatic diseases are also present in SSc such as anti-PmScl, anti-Ku, anti-NOD2/12,4).

Method

One hundred diagnosed scleroderma patients received in Health Services Laboratories, immunology, London were studied for the presence of scleroderma autoantibodies. The patients ranged from new onset to long standing disease and also a mix of diffuse and limited scleroderma. The serum samples were screened using AESKU Hep 2 substrate by indirect immunofluorescence and EliA method (Thermofisher) for ENA characterisation. Further scleroderma related autoantibodies were confirmed using scleroderma immunoblot (Euroimmun). RNA polymerase EliA (INOVA) and U3RNP EliA method (Thermofisher).

Results

• ANA patterns and titres of the one hundred patients were seen as below:

![Figure 1. Antibodies and their risk factors associated with different SSc subsets](image)

![Figure 2. Coexisting antibody percentages with anti-SSc 70 and anti-Cm](image)

• Single specific antibodies were seen as below:

- Single specific antibodies were seen as below:

  - Coexisting antibodies were seen with anti- Scl 70 and anti-Cm as below:

  - 15% of patients with a high titre of ANA were SSc immunoblot, ENA characterisation, RNA polymerase ELISA and U3RNP ELISA negative.

  - 4% of patients were seronegative for all methods tested.

Discussion/Conclusion

• Our study confirms the fact that the most common SSc specific autoantibodies are present as a single specificity (1-4).

• Coexisting autoantibodies seen with anti-scl-70 and anti-Cm are seen in overlap syndromes who need careful follow up due to poor prognosis.

• In line with recent literature 4% was seronegative. They present with lower severity of SSc (5,6).

• 15% of patients who are just ANA positive need to be further studied for the discovery of novel antigens.

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