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An Investigation of Lamin A Autoantibodies in Vitiligo

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Background: Vitiligo is a depigmenting skin disease characterised by the appearance of white patches due to functional melanocyte loss from the epidermis. It is suggested that autoimmunity is involved in vitiligo pathogenesis, as autoantibodies and autoreactive T cells against melanocytes are found in vitiligo patients. As part of determining the immunopathomechanisms involved in vitiligo development, an important goal is to characterise the specific targets of the immune response.

Aims: Using phage-display technology, Lamin A was identified as a potential autoantibody target in vitiligo. This study aimed to determine how prevalent Lamin A autoantibodies were in vitiligo patients, and to find out if there were any associations of Lamin A autoantibodies with demographic or clinical features.

Methods: A radioligand binding assay, using [³⁵S]-labelled Lamin A, was employed to detect Lamin A autoantibodies in segmental vitiligo patient ($n=8$), non-segmental vitiligo patients ($n=95$) and healthy individuals ($n=30$).

Results: All healthy controls were negative for Lamin A autoantibodies. 12.5% of segmental vitiligo patients and 20% of non-segmental vitiligo patients were positive for Lamin A autoantibodies. A statistically significant increase in the prevalence of Lamin A autoantibodies was evident in the vitiligo patient group when compared with the healthy controls ($P = 0.007$, Fisher's exact test). However, the presence of Lamin A autoantibodies was not associated with gender, patient age, disease duration, vitiligo onset age, vitiligo activity or the presence of other autoimmune diseases; in comparisons of these details in Lamin A autoantibody-positive and autoantibody-negative vitiligo patient groups, all P values were > 0.05 .

Conclusions: Overall, the results suggest that Lamin A is an autoantibody target in vitiligo.