

that each country report the local prevalence of the pathergy test in a well defined group of patients and controls. Meanwhile the test remains an important diagnostic tool for Behçet's disease in Turkey.

ACKNOWLEDGEMENTS

This work was supported by the Scientific and Technical Research Council of Turkey (TÜBİTAK). TAG-337.

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Immunoglobulins in Alopecia Areata

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Received July 1, 1978

fell with increasing severity of disease as judged by the area of scalp involved. IgM in subjects with extensive disease was significantly lower than that of an age- and sex-matched control group.

Key words: Immunoglobulins; Alopecia areata

Kern et al. (2) measured serum immunoglobulins in 44 subjects with alopecia areata, alopecia totalis and alopecia universalis and could find no abnormalities apart from "mild depression of one or more of the immunoglobulins in a few subjects". They made no comment on the severity of the disease in those subjects with low immunoglobulin levels. In this investigation, IgA, IgM and IgG were measured in subjects with alopecia areata and correlated with the area of scalp involved by the disease.

MATERIALS AND METHODS

Serum was obtained from 57 subjects with varying degrees of alopecia areata, alopecia totalis and alopecia universalis. The area of scalp involved was assessed clinically and the patients were divided into three groups: less than one-third of the scalp involved, between one-third and two-thirds of the scalp involved and more than two-thirds of the scalp involved. The "activity" of the disease was assessed by asking the patient about fall of hair, examining for the presence or absence of exclamation mark hairs and noting the ease with which perilesional hairs could be pulled from the scalp. The duration of the disease and any history of eczema, asthma or hay fever in the patient or relatives were recorded. Serum was also obtained from 20 healthy control subjects age- and sex-matched with the subjects in the most severe group. All specimens were stored at -20°C until required. Immunoglobulin levels were measured by radial immunodiffusion using commercially available plates and standard sera (Diffu-Gen, Oxford Laboratories).

RESULTS

The mean level of IgM fell with increasing severity of disease and IgM in subjects with more than two-thirds of the scalp involved was significantly lower (Student's test) than that of age- and sex-matched controls. IgA levels also tended to fall with increasing severity of the disease but this was not significant. There were no changes in IgG levels. Immunoglobulin levels did not correlate with the "activity" of the disease or the presence of atopic symptoms in the patient. Nine of the 20 subjects in the group with over two-thirds of the scalp involved

Abstract. Serum immunoglobulin levels (IgA, IgM, IgG) were measured by radial immunodiffusion in 57 subjects with varying degrees of alopecia areata. Both IgA and IgM

Table I. Mean immunoglobulin levels ($\pm$ S.D.) in three groups of subjects with varying degrees of alopecia areata and a control group age- and sex-matched with the most severely affected group

Normal range in parentheses

Area of scalp involved	$< 1/3$	$1/3-2/3$	$> 2/3$	<i>p</i>	Controls
IgA g/l (0.9-4.5)	2.28 $\pm$ 1.18	1.76 $\pm$ 0.85	1.63 $\pm$ 0.86	n.s.	1.96 $\pm$ 0.71
IgM g/l (0.6-2.8)	1.51 $\pm$ 0.60	1.35 $\pm$ 0.40	1.11 $\pm$ 0.58	<i>p</i> <0.05	1.57 $\pm$ 0.67
IgG g/l (8.0-18.0)	11.29 $\pm$ 2.67	12.58 $\pm$ 2.04	11.43 $\pm$ 3.60	n.s.	11.46 $\pm$ 3.70
No. of subjects	19	16	20		20
Mean age in years	31	27	28		28
Subjects with atopic history	3	4	6		3

had alopecia totalis or universalis. There were no significant differences in the immunoglobulin levels of these subjects when compared with the rest of the group.

DISCUSSION

These results suggest that individuals with severe alopecia areata, alopecia totalis or alopecia universalis have lower levels of IgM and possibly IgA than unaffected or mildly affected subjects. It is not possible, however, to draw too many conclusions from this work in view of the small numbers of subjects in each group. Most of the immunoglobulin levels measured fell within the 'normal range' but the majority of values of subjects with over two-thirds of their scalp involved were at the lower end of this range.

Recently, a significant reduction in the number of circulating T cells in subjects with alopecia areata compared with age- and sex-matched controls has been described (1). B cells, however, appeared to be normal.

This work may further suggest that immunological factors are of importance in the pathogenesis of alopecia areata.

ACKNOWLEDGEMENTS

I am grateful to the Consultants at The Skin Hospital for allowing me to study the patients under their care.

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Mycosis Fungoides with Verrucous Lesions

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Received March 23, 1978

Mycosis fungoides (M. F.) with papillomatous and verrucous lesions is a very rare disease. Very few



Fig. 1. Hyperkeratotic and verrucous plaques and tumours on the face.