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On the Association Between Vitiligo and Malignant Melanoma

Sir,

An unusual and potentially important facet of vitiligo is its relationship to malignant melanoma. The selective destruction of pigment cells that occurs in vitiligo can be regarded as a therapeutic goal sought in melanoma treatment. Thus, the association of vitiligo and melanoma is of special interest to dermatologists, immunologists, and oncologists, and vitiligo can be viewed as an experiment of nature that accomplishes the goal of melanoma immunotherapy. However, the nature of the link between vitiligo and melanoma is not known, although the association has been observed by several investigators in the past (1 – 6). The relative rates have also been controversial, ranging from 1.4% (7) to 20% (8). Interestingly enough, the development of vitiligo is claimed to improve the prognosis of melanoma in both man and animals (2, 9 – 11) and it has been shown that patients with vitiligo or with melanoma can develop an immune response to identical antigens on pigmented cells and that these antigens are expressed by both melanocytes and melanoma cells (12).

So the aim of the present study was to determine the prevalence of malignant melanoma in a population of patients with vitiligo. We included squamous cell carcinomas in the study. Since both melanoma and squamous cell carcinomas are rare, the size of the study population is crucial. Therefore, we linked information from 1052 patients seen for vitiligo during 1970 – 1992 at two large dermatological clinics in Stockholm, Karolinska Hospital and Danderyd Hospital, with the compulsory Swedish Cancer Registry to identity individuals among them with melanoma and squamous cell carcinomas.

RESULTS

In the population of 1052 vitiligo patients, three melanomas were found (0.3%). No squamous cell carcinomas were found in the population. The patients are summarized in Table I. In two cases the vitiligo developed after diagnosis of melanoma and in one case 32 years before.

DISCUSSION

Based on a case-control study of 623 melanoma patients in Germany, it has recently been claimed that there is a 7 – 10 fold increase in the prevalence of vitiligo in patients with melanoma and that a reverse analysis of the data yielded a 180-fold higher prevalence of melanoma in the group of patients with vitiligo (6). Therefore, the authors suggest a more thorough examination of patients with vitiligo for primary melanoma. However, the aim of that study was to determine the prevalence of vitiligo in patients with malignant melanoma. In the present study the aim was the reverse: to determine the prevalence of malignant melanoma in patients with vitiligo. The results are also quite different. In our study only one case with vitiligo developed malignant melanoma after 32 years.

What can be the explanation for such differing results? The German study (6) is a case control study and so it is difficult to ensure lack of bias, i.e. detection bias: vitiligo is sought more vigorously among the melanoma patients. However, this could only partly explain the difference in the outcome of the two studies. The present study is a cohort study and thus has an advantage over a case-control study. In addition, the study population was well defined, relatively large and the number of observed melanomas reliable owing to the patients' personal number and the accurate registration of the Swedish Cancer Registry.

However, it is obvious that vitiligo-like depigmentations appear in melanoma patients and have some prognostic significance, and this phenomenon could be a possible explanation for the diverging findings in the different studies. In addition, from a clinical point of view, based on the results of the present study; it does not seem necessary to make a more thorough examination of patients with vitiligo for primary melanoma than the normal inspection for vitiligo. The patients in this study have been all those with vitiligo seen at two large dermatological clinics in Stockholm for many years and in only one case did the vitiligo proceed the melanoma. Thus, there is no reason for paying any attention to the possible association between vitiligo and melanoma in the clinical situation.

The lack of squamous cell carcinomas in the study population is in agreement with the rareness of reported skin cancer in vitiligo (6). These data seem to indicate that absence of melanin does not enhance the development of squamous cell carcinomas. The

Table I. *Patients with vitiligo and malignant melanoma*

Patient No/Sex	Malignant melanoma			Vitiligo		
	Age at diagnosis (years)	Site	Histopathological type	Age at onset (years)	Type	Follow-up alive (years)
1/Female	46	Leg	SSM, Clark III Breslow 1.5 mm	48	Symmetric patches on trunk and extremities. No heredity	20
2/Female	56	Heel	SSM, Clark III Breslow 0.7	59	Symmetric patches on face. Heredity not known.	Died in malignant melanoma 64 years of age
3/Female	34	Dorsal thigh	SSM	2	Symmetric patches on face,	16

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sun-protective function of melanin is still poorly understood. However, the patients with vitiligo have earlier been told to stay away from the sun, which might be the major explanation.

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