

The Classification of Segmental Vitiligo on the Face

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Abstract

Segmental vitiligo usually has an onset early in life and spreads rapidly within the affected area. Among 1,300 patients with vitiligo, 191 patients with segmental vitiligo involving the face were evaluated. In this study, the distribution of segmental vitiligo on the face could be classified into 5 patterns which have distinctive features. This classification of facial segmental vitiligo can provide some indication of the future distribution of early lesions if they have begun to spread.

Key Words: Vitiligo, segmental, face

INTRODUCTION

Vitiligo is a relatively common acquired depigmenting disorder that affects about 1% of the population.¹ Although many studies have concentrated on its pathogenesis, the hypothesis concerning the pathogenesis of vitiligo has not yet been fully established² and there is no uniform classification that all clinicians agree upon. To date, a classification system describing vitiligo as generalized or localized type according to the distribution of lesions has been commonly used. Localized type is subdivided into focal and segmental subtypes, while generalized type is subdivided into acrofacial, vulgaris and universal subtypes. An overlap of various types is classified as mixed type.³ This classification system provides for the distribution of vitiligo lesions.

In 1977, Koga performed a sweat secretion stimulation test with physostigmine and accordingly reclassified vitiligo into non-segmental type (type A), and segmental type (type B), which is associated with abnormalities of sympathetic nerves in the lesional area.⁴ After Koga's report suggesting that these two types differed in pathogenesis and clinical presentation, many clinicians started to take an interest in

segmental vitiligo, since most of these cases did not cross the mid-line and were distributed along a unilateral dermatome, thus enabling prediction of the prognosis.^{5,6} Segmental type is usually localized to one dermatome, shows relatively stable disease activity after its initial rapid-spreading phase, and is associated with a significantly lower rate of autoimmune diseases than non-segmental type.^{5,6} In this study, we evaluated the characteristics of segmental vitiligo, focusing particularly on the facial area, which results in the most serious psychological and social impact.

MATERIALS AND METHODS

Data were obtained from patients registered at the

Table 1. Classification of Segmental Vitiligo on the Face

Type	Distribution		Total
	Left	Right	
Ia	51* (26.7) [†]	0	51 (26.7)
Ib	0	8 (4.2)	8 (4.2)
II	12 (6.3)	18 (9.4)	30 (15.7)
III	24 (12.6)	18 (9.4)	42 (22.0)
IV	5 (2.6)	18 (9.4)	23 (12.0)
V	5 (2.5)	13 (6.8)	18 (9.4)
Unclassified	10 (5.2)	9 (4.7)	19 (9.9)
Total	107	84	191

* Number of patients.

[†] Percent of patients.

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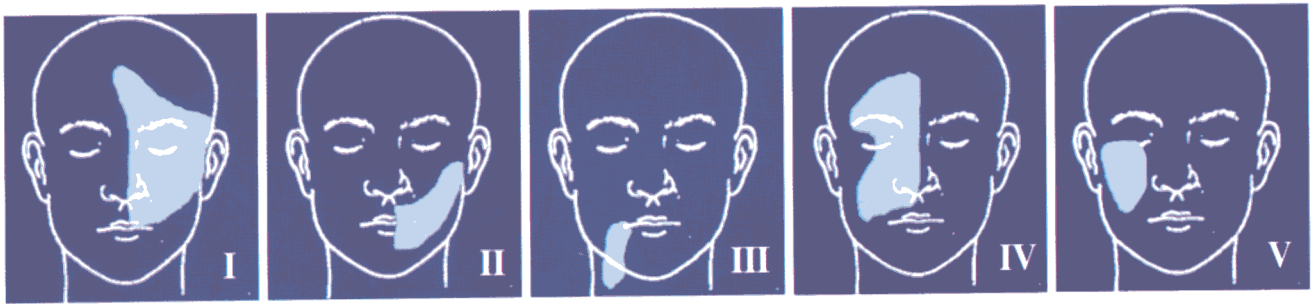


Fig. 1. Five patterns of segmental vitiligo on the face.



Type 1a

Fig. 2. Type 1a represents the lesion, which started from the right side of the forehead, crossed the face and spread down to the eyeball, nose and cheek on the left side of the face.

Vitiligo Special Clinic of Severance Hospital, Yonsei University College of Medicine, from 1992 to 1998. We evaluated 191 patients with segmental vitiligo involving the face with regard to age, sex, duration of disease, family history, distribution of initial lesions, progression pattern, and clinical type. The chi-square and Student's-test were used for data analysis. All statistical tests were interpreted at the 5% significance level.

RESULTS

The summary of classification of segmental vitiligo



Type 1b

Fig. 3. Type 1b shows a lesion that started from the left side of the face and spread down to the right side of the face, crossing the midline.

on the face is shown in Table 1. There were no significant differences in age, sex, duration of disease, family history, distribution of initial lesions, progression pattern, and clinical type. Segmental vitiligo of the face did not always follow dermatomes, nor any other lines such as Blaschko's line or acupuncture lines. The distribution of segmental vitiligo on the face was classified into 5 patterns (Fig. 1). Type 1a represents the lesion which started on the right side of the forehead, crossed the midline of the face and progressively spread down to the eyeball, nose and cheek on the left side of the face (Fig. 2). Type 1b showed a mirror image of 1a. The lesion started from the left side of the face and spread down the right side of the face, crossing the midline (Fig. 3). In type 2, the lesion started on the area between the nose and lip, then arched to the preauricular area (Fig. 4). In type 3, the lesion initiated on the lower lip and spread down to the chin and neck (Fig. 5). In type 4, the lesion originated on the right or left side of the forehead and spread down to the eyeball, nose and cheek areas without crossing the midline (Fig. 6).



Type II

Fig. 4. Type 2 shows a lesion that started from the area between the nose and lip, arching to the preauricular area.



Type III

Fig. 5. Type 3 shows a lesion that initiated from the lower lip and spread down to the chin and neck.

In type 5, the lesion was usually confined to the right or left cheek area (Fig. 7). Some segmental vitiligo on the face cannot be classified by this system. Type 1 was the most common (30.9%) and type 5 was the least common (9.4%).

DISCUSSION

Vitiligo is an acquired disorder with destruction of melanocytes and it is clinically characterized by



Type IV

Fig. 6. Type 4 shows a lesion that originated from the right side of the forehead and spread down to the eyeball, nose and cheek areas without crossing the midline.



Type V

Fig. 7. Type 5 shows a lesion that was usually confined to the cheek area.

depigmented patches of skin.^{4,5} Vitiligo can clinically be divided into several subtypes, but it can also be simply classified as segmental and non-segmental type according to its pathogenesis and prognosis.^{4,6} The non-segmental type can occur at any time in life, with possible spreading of the lesions and it is characteristically associated with Koebner phenomenon and halo nevus.⁵ Autoimmunity is thought to be involved in its pathogenesis.^{5,7-12} By contrast, segmental type is usually localized to one dermatome, shows relatively stable disease activity after its initial rapid spreading phase, and is associated with a significantly lower rate of autoimmune diseases than non-segmental type.^{5,6} Therefore patients with stable segmental vitiligo are good candidates for treatment with epidermal grafting.

The percentage of segmental type varies with each study; El Mofty¹³ reported 5%; Koga and Tango⁵ 27.9%; and Hann and Lee⁶ 16.1%.

In our previous study of segmental vitiligo, the most common sites were the face, trunk, neck, extremities and scalp, in descending order of frequency.⁶ Since the face is a commonly-involved site of vitiligo⁶ and it is the area that causes psychologic impact,¹⁴ most patients are willing to undergo intensive treatment.^{2,15} Therefore, knowledge about the exact spreading pattern and prognosis is of great interest to both patients and doctors. This classification of facial segmental vitiligo can provide some indication of the future distribution of early lesions if they have begun to spread.

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