Halo Medium-Sized Congenital Melanocytic Nevi and Vitiligo Progression in Three Children

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Abstract

Reports of halo nevus in medium-sized CMN are limited in the literature and its association with vitiligo is not very common. We present three healthy children with medium-sized CMN. There was no family history of vitiligo, other autoimmune disorders or melanoma. After years of follow up, the patients developed an achromatic regular halo around the congenital nevus and one of them showed others halo nevi. Following these changes, achromatic macules and vitiligo was diagnosed. At follow-up, we observed reduction in size of the CMN and no thought-provoking malignant changes. Conclusion: We support that in halo medium sized CMN, like in other congenital nevi with unusual features, continuous observation should be recommended. Furthermore, parents should be informed about the long period of time required for complete resolution and the low possibility of malignant change in the nevus. Pediatricians should be familiar with this no life-threatening association.

Keywords: Halo nevus; Medium sized congenital melanocytic nevus; Melanocytic nevus, Vitiligo

Abbreviations: CMN: Congenital Melanocytic Nevi

Introduction

Reports of halo nevus in medium-sized Congenital Melanocytic Nevi (CMN) are limited in the literature and their association with vitiligo is not very common [1-3]. We herein report three children with medium-sized halo CMN with concomitant vitiligo.

Case 1

A one year-old girl was referred to our dermatology department for assessment of an asymptomatic congenital pigmented lesion on the right posterior flank. Medical history was unremarkable. Dermatologic examination revealed a 30×10 mm homogeneous dark brown plaque with a verrucous surface, which was diagnosed as medium-sized CMN. After seven years of follow-up, the nevus had enlarged proportionally to the child’s growth, and an achromatic halo appeared around the nevus (Figure 1). Over the following two years, this achromatic halo increased in size with disappearance of several nevi and achromic macules (Figure 2). Other cases with simultaneous development of vitiligo and halo formation have also been reported [4,5], with no significant clinical differences in vitiligo progression. This situation could enhance the understanding of halo phenomenon and vitiligo, suggesting a common immune mechanism directed against similar or even identical molecular targets.

Case 2

A two year-old girl was under follow-up due to an asymptomatic congenital pigmented lesion on the left leg. She had no relevant past medical and family history. Dermatologic examination revealed a homogeneous dark-brown plaque with an irregular and hairy surface of 63×30 mm. Four years later, an achromatic halo appeared around the CMN and around other pigmented lesions, some of the halos increased in size with disappearance of several nevi and achromatic macules randomly distributed were noted. Blood analyses including thyroid function and autoimmunity were normal. Findings were consistent with a halo nevus in a medium sized CMN and vitiligo.

Case 3

A six year-old boy had an asymptomatic congenital pigmented lesion on the right axilla with an adjacent depigmented patch of one year of progression. The family and personal history were unremarkable. Dermatologic examination revealed on the right axilla a heterogeneous light-brown plaque of 40×20 mm with an achromatic patch overlying it and other achromatic patches randomly distributed. After 5 years of follow-up, partial regression of the nevus was observed. Laboratory tests including thyroid function and autoimmunity were normal. Reduction in size of the CMN and a slow progression of vitiligo were observed (Figure 2).

Discussion

Melanocytic nevi surrounded by a halo of depigmentation can occur in childhood. In contrast, halo phenomenon around medium-sized CMN has been rarely reported, especially as a manifestation of vitiligo in children. The appearance of this phenomenon usually correlates with the onset of nevus regression that leads to a complete disappearance of the nevus. It is remarkable that most of the reported cases developed vitiligo shortly after the achromatic halo expanded around the CMN [1-3].

In the literature reviewed, seven cases were found with vitiligo after halo medium-sized CMN with no sex or age of onset predominance (Table 1). Other cases with simultaneous development of vitiligo and halo formation have also been reported [4,5], with no significant clinical differences in vitiligo progression. This situation could enhance that immunological factors seem to play a crucial role for the induction of halo phenomenon and vitiligo, suggesting a common immune mechanism directed against similar or even identical molecular targets.

Aouthmany et al. reported three cases of halo CMN not associated with vitiligo in a retrospective study of halo nevus, and two of these patients elected to have the CMN excised. In the patient whose CMN was followed-up, the halo phenomenon persisted around the slowly regressing CMN and no vitiligo progression was observed as in our patients. These authors concluded that large congenital nevi with halos...
may take longer to resolve than halo nevus involving smaller benign acquired nevi [1]. Itin et al. also recommend continuous observation as in all CMN with unusual features [5].

One unusual case of halo-CMN and vitiligo was recently reported with and spontaneous partial repigmentation of vitiligo and of the achromic halo. As in our cases, the patient developed vitiligo after the halo formation around the CMN [6].

Vitiligo is an acquired, progressive disorder of the skin that results in the selective destruction of melanocytes of the interfollicular epidermis and occasionally of the hair follicles as well. The etiology is still unknown, but loss of melanocytes has been recently explained by an autoimmune mechanism [7]. This entity often is a psychologically devastating disorder, associated with a marked psychosocial and long lasting effect on the self-esteem of the affected children; therefore an adequate psychological management is in some cases essential. Treatment of vitiligo is indeed a tough challenge for dermatologists, especially in childhood [8]. The parents of our patients refused any vitiligo treatment.

As in previous reports of other similar cases [3], we have observed no changes of malignancy in any of the three patients. We still recommend continuous observation of halo medium sized CMN, as we would recommend with any congenital nevus with unusual features. Parents should be informed about the long period of time required for complete resolution and the low possibility of observing malignant changes among these nevi. Vitiligo should be treated if there is a social and psychological concern in the affected children.

In conclusion, we herein report three new cases of halo medium-sized CMN and vitiligo, a no complicated association that pediatricians should be familiar with the benign features of this reaction and the regular following to calm the parents of their patients.

References

Table 1: Characterization of halo nevus in medium-sized CMN and vitiligo in children

<table>
<thead>
<tr>
<th>Case</th>
<th>Age of onset in yrs</th>
<th>Sex</th>
<th>Size (mm) of CMN</th>
<th>Location of nevus</th>
<th>Distribution of vitiligo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1*</td>
<td>8</td>
<td>F</td>
<td>30 x 7</td>
<td>Trunk</td>
<td>Localized</td>
</tr>
<tr>
<td>2*</td>
<td>4</td>
<td>F</td>
<td>63 x 30</td>
<td>Left leg</td>
<td>Randomly</td>
</tr>
<tr>
<td>3*</td>
<td>5</td>
<td>M</td>
<td>40 x 20</td>
<td>Right axilla</td>
<td>Randomly</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>M</td>
<td>55 x 18</td>
<td>Right arm</td>
<td>Localized [4]</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>M</td>
<td>70 x 30</td>
<td>Right leg</td>
<td>Localized [5]</td>
</tr>
<tr>
<td>6</td>
<td>13</td>
<td>F</td>
<td>85 x 26</td>
<td>Right hip</td>
<td>Randomly [2]</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>F</td>
<td>45 x 15</td>
<td>Left hand</td>
<td>Randomly [2]</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>M</td>
<td>80 x 20</td>
<td>Right frontal scalp</td>
<td>Randomly [2]</td>
</tr>
<tr>
<td>9</td>
<td>7</td>
<td>F</td>
<td>26 x 12</td>
<td>Submandibular</td>
<td>Randomly [2]</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>M</td>
<td>30 x15</td>
<td>Right knee</td>
<td>Randomly [6]</td>
</tr>
</tbody>
</table>

*our patients