A panoramic study of dermascopic patterns in vitiligo

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Abstract

Background: Vitiligo is an acquired skin disorder characterized by white and depigmented patches enlarging and becoming more numerous with time. It is due to a disappearance of functioning melanocytes and loss of melanin in the epidermis. The condition can be cosmetically disfiguring and the lesional skin is thus more sensitive to sunburns. It affects 0.1-2% of the world’s population, irrespective of gender and race, its etiology is unknown. Aim: To study the morphological dermascopic patterns in cases of vitiligo and to access the disease activity, prognosis and as a diagnostic tool in choosing mode of treatment modality. Materials and Methods: White light dermoscopy is used in imaging patterns in 100 diagnosed cases of vitiligo, which includes stable vitiligo, unstable vitiligo, guttate vitiligo and vitiligo cases on treatment Result: On examination with dermoscopy following patterns were seen trichrom, marginal hyperpigmentation, marginal reticulate pigmentation, perifollicular hyperpigmentation in stable vitiligo and salt pepper pattern, starburst pattern in unstable vitiligo; erythema, perifollicular pigmentation, reticular pigmentation seen in stable vitiligo, comet tail pattern seen in koebner phenomena. Conclusion: Erythema, Telangectasis, perifollicular pigmentation, reticular pigmentation patterns showed good prognosis: marginal hyperpigmentation, perifollicular hyperpigmentation, leucotrichia, reticular pigmentation, comet tail showed poor prognosis, hence dermoscopy is used to monitor activity and prognosis of disease with treatment and some patterns can also suggest change of treatment modality. Keywords: Dermoscopy, Stable vitiligo, Unstable vitiligo.

INTRODUCTION

Vitiligo is an acquired, idiopathic disorder characterized by circumscribed depigmented macules and patches with or without leucotrichia. Melanocyte destruction in vitiligo is a slow process resulting in a progressive decrease in melanocyte numbers. Normal skin has a typical reticulate pigmentary pattern that corresponds to the pigmentation along rete ridges with pale areas corresponding to the papillary dermis. This reticulate pigmentary pattern is altered in various pigmentary disorders including vitiligo. Evolving lesions of vitiligo are difficult to distinguish clinically from other causes of hypopigmentation and depigmentation. Dermoscopic examination can detect subtle changes in the pigmentary pattern which may be useful in the early diagnosis of vitiligo. Dermoscopy of normal skin reveals normal reticular pattern of pigment network which consists of homogeneous pigmented lines corresponding to rete network and pale areas in between these lines. This normal reticulate pigmentation network is reversed in some cases of evolving lesions of vitiligo. Dermoscopy is usually employed to examine melanomas and other pigmented lesions. However, it has recently been used in the early diagnosis of localized vitiligo. A pattern of depigmentation with residual reservoirs of perifollicular pigment is considered characteristic signifying focally active or repigmenting vitiligo.

MATERIALS AND METHODS

100 established cases of vitiligo, which includes stable vitiligo, unstable vitiligo and vitiligo cases on treatment. Informed consent was taken from patients. Dermoscopy was used for imaging patterns and computer to store images.

Inclusion Criteria: Established cases of stable and unstable vitiligo, including few patients on treatment.

Exclusion Criteria: Other causes of hypopigmentary lesions.

RESULTS

Out of 100 cases of vitiligo. Trichrome pattern is seen in 56 cases, Reticular pigmentation in 61 cases, Perifollicular pigmentation is seen in 55 cases, Marginal hyperpigmentation is seen in 23 cases, Salt pepper pattern is seen in 10 cases, Star bust pattern is seen in 12 cases, Comet tail pattern is seen in 2 cases, Leucotrichia is seen in 28 cases. According to our study: Patterns like reticular pigmentation, Perifollicular pigmentation, Marginal hyperpigmentation, Salt pepper pattern seen significantly in stable vitiligo. Patterns like Trichrome, Star bust pattern, Comet tail pattern are seen in unstable vitiligo.

<table>
<thead>
<tr>
<th>Patterns</th>
<th>Stable vitiligo</th>
<th>Unstable vitiligo</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichrome pattern</td>
<td>17</td>
<td>39</td>
<td>56</td>
</tr>
<tr>
<td>Reticular pigmentation</td>
<td>46</td>
<td>15</td>
<td>61</td>
</tr>
<tr>
<td>Perifollicular pigmentation</td>
<td>38</td>
<td>17</td>
<td>55</td>
</tr>
<tr>
<td>Marginal hyperpigmentation</td>
<td>23</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>Salt pepper pattern</td>
<td>7</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Starbust pattern</td>
<td>0</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Comet tail pattern</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 1

<table>
<thead>
<tr>
<th>Patterns</th>
<th>Number of cases</th>
<th>Total number of cases on treatemnt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erythema</td>
<td>24</td>
<td>49</td>
</tr>
<tr>
<td>Telangectasia</td>
<td>12</td>
<td>49</td>
</tr>
<tr>
<td>Atrophy</td>
<td>14</td>
<td>49</td>
</tr>
</tbody>
</table>

Table 2

Legend

Figure 1: Trichrome pattern
Figure 2: Reticular pattern
Figure 3: Perifollicular pigmentation
Figure 4: Marginal hyperpigmentation
Figure 5: Star bust pattern
Figure 6: Salt pepper pattern
Figure 7: Erythema
Figure 8: Atrophy and telangectasia
Out of total 100 cases, 49 cases were on treatment and they showed erythema in 24 cases, telangectasia in 12 cases, and atrophy in 14 cases.

DISCUSSION

Normal skin has a typical reticulate pigmentary pattern that corresponds to the pigmentation along rete ridges with pale areas corresponding to the papillary dermis. This reticulate pigmentary pattern is altered in various pigmentary disorders including vitiligo. Evolving lesions of vitiligo are difficult to distinguish clinically from other causes of hypopigmentation and depigmentation. Dermoscopic examination can detect subtle changes in the pigmenitary pattern which may be useful in the early diagnosis of vitiligo. Dermoscopy is usually employed to examine melanomas and other pigmented lesions. However, it has recently been used in the early diagnosis of localized vitiligo. A pattern of depigmentation with residual reservoirs of perifollicular pigment is considered characteristic signifying focally active or repigmenting vitiligo. The diagnosis of vitiligo is primarily clinical without the need of any diagnostic tools. However, noninvasive tests are helpful: When diagnosis is in doubt e.g. in evolving disease, and for objective evaluation of treatment response. Three techniques are helpful for this purpose -digital photography with computerized image analysis, dermoscopy, and reflectance confocal microscopy. Dermoscopy (digital epiluminescence microscopy or "dermatoscopy") magnifies the clinical image manifold and allows appreciation of subtle features invisible to the naked eye. This noninvasive and easy-to-use technique may be performed with a hand-held instrument or by video dermoscopy. While video dermoscopy permits high-resolution viewing at higher magnifications, the hand-held dermoscope is more convenient for quick office evaluation. Dermoscopy is most commonly used for the examination of melanomas, pigmented lesions, and hair-loss. Its use in diagnosis and differentiation of hypopigmented lesions is relatively novel. Chuh and Zawar described its use as an early diagnostic tool for localized vitiligo, in which they reported a pattern of depigmentation with residual reservoirs of perifollicular pigment being characteristic.
presence of telangiectasia, early reservoirs of pigmentation and perilesional hyperpigmentation were related to the stage of vitiligo and treatment history of patients, but according to our study: Patterns like reticular pigmentation, Perifollicular pigmentation, Marginal hyperpigmentation seen significantly in stable vitiligo. Patterns like Trichrome, Salt pepper pattern, Star burst pattern, Comet tail pattern are seen in unstable vitiligo.

CONCLUSION
Erythema, Telangectasis, perifollicular pigmentation, reticular pigmentation patterns showed good prognosis: marginal hyperpigmentation, perifollicular hyperpigmentation, leucotrichia, marginal reticular pigmentation, comet tail showed poor prognosis, hence dermoscopy is used to monitor activity and prognosis of disease with treatment and some patterns can also suggest change of treatment modality.

REFERENCES

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