A CROSS SECTiONAL STUDY OF DERMASCOPIC PATTErNS IN VItiLIGO: A STUDY FROM CENTRAl INDIa

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Abstract

Background: Vitiligo is an acquired skin condition characterised by enlarging and becoming more numerous over time by white and depigmented patches. It is attributed to the absence and depletion of melanin in the epidermis of healthy melanocytes. The disease can be cosmetically disfigured and the skin is also more vulnerable to sunburns. It affects 0.1-2 percent of the world’s population, and its aetiology is uncertain regardless of gender and ethnicity.

Aim: Analysis of morphological dermascopic trends in cases of vitiligo and access to the operation of the disorder, prognosis and as a diagnostic method in the choice of modality of care.

Materials and Methods: In 200 diagnosed cases of vitiligo, which contains stable vitiligo, unstable vitiligo, guttate vitiligo and vitiligo treatment cases, white light dermascopy is used in imaging patterns.

Result: Trichrome, marginal hyperpigmentation, marginal reticular pigmentation, perifollicular hyperpigmentation in stable vitiligo and salt pepper pattern, starburst pattern in unstable vitiligo is seen on inspection with dermascopy, erythema, perifollicular pigmentation, reticular pigmentation seen in stable vitiligo, comet tail pattern seen in Koebner phenomenon.

Conclusion: Bad prognosis was demonstrated by erythema, telangectasis, perifollicular pigmentation, reticular pigmentation patterns: marginal hyperpigmentation, perifollicular hyperpigmentation, leucotrichia, marginal reticular pigmentation, comet tail. Dermascopy is therefore used to track treatment activity and disease prognosis, and certain trends can also recommend adjusting the modality of treatment.

Keywords: Dermascopy, Stable vitiligo, Unstable vitiligo.

Introduction

Vitiligo is an idiopathic, acquired condition characterised by circumscribed depigmented macules with or without leucotrichia and patches. The death of melanocytes in vitiligo is a slow process that results in a gradual decrease in the number of melanocytes. Normal skin has a typical reticulate pigment pattern that corresponds to the pigmentation corresponding to the papillary dermis along rete ridges with pale areas. In multiple pigmentary disorders, including vitiligo, this reticular pigmentary pattern is altered. It is difficult to clinically separate developing lesions of vitiligo from other causes of hypopigmentation and depigmentation. Subtle variations in the pigment pattern may be detected by dermoscopic analysis, which can be useful in the early diagnosis of vitiligo. Normal skin dermoscopy shows the pigment network’s normal reticular pattern consisting of homogeneous pigmented lines corresponding to the rete network and pale areas between these lines. In certain cases of emerging vitiligo lesions, this natural reticulated pigmentary network is reversed. In order to analyse melanomas and other pigmented lesions, dermoscopy is commonly used. It has, however, been used recently in the early diagnosis of localised vitiligo. A pattern of depigmentation is considered characteristic to suggest focially active or repigmenting vitiligo with residual reservoirs of perifollicular pigment.

Materials and Methods

200 cases of vitiligo, including stable vitiligo, unstable vitiligo and cases of vitiligo on medication, have been identified. Patients’ informed consent has been received. For image patterns and computers to store images, Dermascopy was used.

Inclusion Criteria: Cases of stable and dysfunctional vitiligo, including few treatment patients, have been identified.

Exclusion Criteria: Other causes of lesions with hypopigmentation.

Results

Table 1: patterns of 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>34</td>
<td>78</td>
<td>112</td>
</tr>
<tr>
<td>Reticular pigmentation</td>
<td>92</td>
<td>30</td>
<td>122</td>
</tr>
<tr>
<td>Perifollicular pigmentation</td>
<td>76</td>
<td>34</td>
<td>110</td>
</tr>
<tr>
<td>Marginal hyperpigmentation</td>
<td>46</td>
<td>0</td>
<td>46</td>
</tr>
<tr>
<td>Salt pepper pattern</td>
<td>14</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Starburst pattern</td>
<td>0</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Comet tail pattern</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
Out of 200 cases of vitiligo, the pattern of trichrome is seen in 112 cases, reticular pigmentation in 122 cases, perifollicular pigmentation in 110 cases, marginal hyperpigmentation is seen in 46 cases, salt pepper pattern in 20 cases, star bust pattern in 24 cases, comet tail pattern in 4 cases, leucotrichia in 56 cases. According to our research: reticular pigmentation patterns, perifollicular pigmentation, marginal hyperpigmentation, pattern of salt pepper seen significantly in healthy vitiligo. In dysfunctional vitiligo, patterns such as Trichrome, Star bust pattern, Comet tail pattern are used.

Table 2: Additional signs seen

<table>
<thead>
<tr>
<th>Additional signs seen in patients on treatment</th>
<th>Number of cases</th>
<th>Total number of cases on treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erythema</td>
<td>48</td>
<td>98</td>
</tr>
<tr>
<td>Telangectasia</td>
<td>24</td>
<td>98</td>
</tr>
<tr>
<td>Atrophy</td>
<td>26</td>
<td>98</td>
</tr>
</tbody>
</table>

Out of total 200 cases, 98 cases were on treatment and they showed erythema in 48 cases, telangectasia in 24 cases, and atrophy in 26 cases.

Discussion

Normal skin has a typical reticulate pigment pattern that corresponds to the pigmentation corresponding to the papillary dermis along rete ridges with pale areas. In multiple pigmentary disorders, including vitiligo, this reticular pigmentary pattern is altered. It is difficult to clinically separate developing lesions of vitiligo from other causes of hypopigmentation and depigmentation. Subtle variations in the pigment pattern may be detected by dermoscopic analysis, which can be useful in the early diagnosis of vitiligo. In order to analyse melanomas and other pigmented lesions, dermoscopy is commonly used. It has, however, been used recently in the early diagnosis of localised vitiligo. A pattern of depigmentation is considered characteristic to suggest focally active or repigmenting vitiligo with residual reservoirs of perifollicular pigment. Without the need for some medical equipment, the diagnosis of vitiligo is mostly clinical. Non-invasive assessments, however, are helpful: when the diagnosis is in question, e.g. in the progression of the disease, and for objective assessment of the reaction to care. Digital photography with computerised image processing, dermoscopy, and reflectance confocal microscopy are three techniques that are helpful for this purpose. Dermoscopy (digital epiluminescence microscopy or "dermatoscopy") magnifies the multiplicity of clinical images and enables subtle features invisible to the naked eye to be appreciated. This non-invasive and easy-to-use technique can be done with a camera dermoscopy or with a hand-held instrument. Although video dermoscopy enables high-resolution viewing at greater magnifications, for fast office assessment, the hand-held dermoscope is more convenient. Most specifically, dermoscopy is used for evaluating melanomas, pigmented lesions, and hair loss. Its use in hypopigmented lesion diagnosis and differentiation is relatively novel. Chuh and Zawar identified its use as an early diagnostic method for localised vitiligo in which a pattern of depigmentation was recorded with characteristic residual reservoirs of perifollicular pigment. Although clinical suspicion of vitiligo was reported in their research on dermoscopic detection of depigmentation with preserved perifollicular pigment, 200 cases of vitiligo were reported in our study. Trichrome pattern is seen in 112 cases, reticular pigmentation in 122 cases, perifollicular pigmentation in 110 cases, marginal hyperpigmentation in 46 cases is seen, salt pepper pattern in 20 cases is seen, star bust pattern in 24 cases is seen, comet tail pattern in 4 cases is seen, leucotrichia in 56 cases is seen. 176 patients with different forms of depigmentation, of whom 97 had vitiligo, were examined by Meng et al. Residual perifollicular pigmentation was found in 57 (91.9 percent) of 62 progressive vitiligo patients and 22 (62.9 percent) of 35 stable vitiligo patients. However, in the 79 patients with non-vitiligo depigmentation, residual perifollicular pigmentation was absent. The existence of telangiectasia, early pigmentation reservoirs and perilesional hyperpigmentation is correlated with the vitiligo stage and patient history of treatment. Their studies differed from ours in that they covered all forms of vitiligo as well as other causes of hypopigmentation and depigmentation (evolving, stable and devolving). Our research focused on the detection of dermoscopic symptoms of emerging vitiligo lesions, which revealed that out of a total of 200 cases, 98 cases were being treated and erythema was seen in 48 cases, telangectasia was seen in 24 cases, atrophy was seen in 26 cases, perifollicular and marginal reticular pigmentation was seen in most treatment cases. Different dermoscopic findings are consistent with vitiligo stability and repigmentation. This involves hyperpigmentation of the marginal and perifollicular, reticular pigmentation and reticular marginal pigmentation. In our sample, out of a total of 200 cases, 98 cases were treated and erythema was observed in 48 cases, telangectasia was observed in 24 cases, atrophy was observed in 26 cases, perifollicular pigmentation reservoirs and perilesional hyperpigmentation was connected to patients’ vitiligo stage and treatment history, but according to our study: trends such as reticular pigmentation, perifollicular...
pigmentation, marginal hyperpigmentation were significantly seen in stable vitiligo. In dysfunctional vitiligo, patterns such as Trichrome, Salt pepper pattern, Star bust pattern, Comet tail pattern are used.

Conclusion

Good prognosis was shown by erythema, telangectasis, perifollicular pigmentation, reticular pigmentation patterns: marginal hyperpigmentation, perifollicular hyperpigmentation, leucotrichia, marginal reticular pigmentation, comet tail showed poor prognosis, so dermascopy is used to control treatment activity and disease prognosis, and some patterns may also indicate changes in treatment modality

References