STUDY OF CLINICAL AND DERMOSCOPIC FEATURES IN ACQUIRED HEMANGIOMA FOR A CORRECT THERAPEUTIC ATTITUDE

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Abstract. Background. The acquired hemangiomas can sometimes raise big clinical and dermoscopic diagnosis problems, it is not always possible to exclude a melanoma. Objectives. The identification of the clinical and dermoscopic features that lead to a more difficult diagnosis of acquired hemangioma. Method. A descriptive transversal study was performed on 23 patients, histopathologically diagnosed with hemangioma, who presented to our clinic, from January to December 2011, for a pigmented skin lesion that had a tendency to change. All the lesions were analyzed clinically and by dermoscopy (dimension, symmetry, chromatic, ulceration, crust, trauma). Results. Hemangiomas are lesions with a rich dermoscopic chromatic, of the 23 lesions in our study, 11 having 4 or 5 colors. The red color was present in 22 lesions, and the lacunar pattern in 13. The two lesions dermoscopically suspected for nodular melanoma lacked the lacunar pattern and presented a blue-white veil-like structure. Conclusions. Dermoscopy allows a relatively easy diagnose of hemangiomas when accompanied by the lacunar pattern, whose absence, together with the blue-white veil-like structure, the homogenous black areas generated by thrombosis create confusions with the melanoma. Keywords: hemangioma, lacunas, blue-white veil, melanoma.

Introduction

Acquired hemangiomas are common, benign lesions, mostly arising in adults; usually they are easy to diagnose, both clinically and by dermoscopy, raising problems only from the cosmetic point of view. Clinically, these lesions consist of erythematous papule, plaque or nodule [1].

The dermoscopic image is defined by the existence of a lacunar pattern [2], easy to be recognized by a trained person. However, such lesions can present real diagnostic challenges, both clinically and by dermoscopy, most often after trauma or thrombosis.

In these circumstances, the overall appearance borrows elements specific to melanoma (black color, whitish blue veil, asymmetry, tendency for changing appearance); moreover, the characteristic lacunar pattern may be absent [3].

Another challenge in diagnosis is represented by collision lesions between melanocytic nevus and hemangiomas, the resulting lesions being highly asymmetric and multichromatic in dermoscopy.

Materials and Methods

A descriptive transversal study was performed on 23 patients, histopathologically diagnosed with hemangiomas; the patients presented to the Clinic of Dermatology I, Colentina Clinical Hospital, from January to December 2011.

The inclusion criteria were the presence of pigmented skin lesions with tendency to change during
the previous 90 days and the acceptance of a surgical procedure in the clinic (including the histopathological examination) for the respective lesion.

The eligible patients were evaluated, clinically, by dermoscopy and histopathologically. We retained for this study those patients with a histopathologic result of hemangioma. For these cases, clinical and dermoscopic appearances of the lesions were analyzed in order to identify the aspects that allowed a correct preoperative diagnosis, and also those that led to a false diagnosis. The clinical evaluation was done using the following parameters: history, dimension, chromatic, symmetry.

The dermoscopic examination was performed with a Heine 20 dermoscope, the obtained images being afterwards recorded with a Canon camera, and then stocked. The dermoscopic parameters to evaluate included chromatic, symmetry, pattern (lacunar, nonspecific, diffuse), whitish blue veil-like structure (reticular, nonreticulate), presence of crust and presence of ulceration.

Variables were assessed for normal values using the Kolmogorov-Smirnov test. The scale symmetric variables were discussed as mean±SD and compared using T-test. The non-symmetric scale variables were reported as medians (range). Categorical data were presented as absolute frequency. Microsoft Office Excel 2007 for Windows was used for the entry of data. Statistical analysis was performed with the SPSS 17.0.

Results

11 women and 12 men were included in the study, with an average age of 43.91 years±4.05 (minimum age 10 years, maximum age 75 years), 18 of them coming from the urban areas, and 5 from rural. Table I presents the absolute frequency for clinical and dermoscopic diagnosis.

<table>
<thead>
<tr>
<th>No.</th>
<th>Clinical diagnosis</th>
<th>Dermoscopic diagnosis</th>
<th>Histopathologic diagnosis</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Hemangioma</td>
<td>Hemangioma</td>
<td>Hemangioma</td>
<td>14</td>
</tr>
<tr>
<td>2.</td>
<td>Nodular melanoma</td>
<td>Hemangioma</td>
<td>Hemangioma</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Nodular melanoma</td>
<td>Nodular melanoma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Collision lesions*</td>
<td>Collision lesions*</td>
<td>Collision lesions*</td>
<td>2</td>
</tr>
<tr>
<td>4.</td>
<td>Superficial spreading melanoma</td>
<td>Collision lesions*</td>
<td>Collision lesions*</td>
<td>1</td>
</tr>
<tr>
<td>5.</td>
<td>Relapse of a basal-cell carcinoma</td>
<td>Hemangioma</td>
<td>Hemangioma</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>Hypopigmented papillomatous nevus</td>
<td>Hemangioma</td>
<td>Hemangioma</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td>23</td>
</tr>
</tbody>
</table>

Table I. Diagnostic refinement based on dermoscopic investigation

The dimension

The median dimension of the lesions was of 0.8 cm (range 0.4 to 3 cm) at clinical evaluation.

The asymmetry: clinical and dermoscopic

The absence of the clinical symmetry on two axes was observed in 4 lesions, clinically diagnosed as: collision lesions (2), basal-cell carcinoma (1), hemangioma (1) (figure 1). The dimension of these lesions varied between 0.6 cm and 3 cm. The absence of the clinical symmetry on one axis was described in 10 lesions, clinically diagnosed as: hemangioma (6), nodular melanoma (3) and superficial spreading melanoma (1) (figure 2). The dimension of these lesions varied between 0.4 cm and 1.5 cm. No statistical difference in means was found between symmetric and non-symmetric lesions.

The dermoscopic asymmetry on two axes was established for 9 lesions, dermoscopically diagnosed as: hemangioma (7), collision lesions (2) (figure 3). The dermoscopic asymmetry on one axis was established for 10 lesions, dermoscopically diagnosed as: hemangioma (7), collision lesions (1), nodular melanoma (2) (figure 4). The dimension of the lesions varied between 0.4 cm and 3 cm, with no statistical difference between means.

Both lesions dermoscopically suspected for nodular melanoma had a clinical and dermoscopic asymmetry on one axis and a dimension of 1 cm.

The chromatic: clinical and dermoscopic

The number of colors clinically perceived varied between 1 and 3, black being present in 15 lesions, red in 12 lesions, blue in 5 lesions, and brown in 5 lesions. 15 lesions had 2 or 3 colors clinically identifiable.

The number of colors dermoscopically observed varied between 1 and 5, most of them (22) having more than one color, and 9 lesions over 3 colors. The colors dermoscopically identified were: black...
The two lesions dermoscopically suspicious as nodular melanoma had three colors. The collision lesions had a number of colors from 3 to 5. No significant statistical association was found between the dimension of the lesions and the number of observed colors.

The lacunar pattern
The lacunar pattern was found in 13 lesions (11 hemangiomas and 2 collision lesions). 10 lesions had no lacunar pattern: 7 were diagnosed as hemangiomas by dermoscopy, 2 as nodular melanoma and one as collision lesion (figure 6). 9 of them had a nonspecific pattern, and only one case had a homogenous one. Both two lesions dermoscopically diagnosed as nodular melanoma had a nonspecific pattern.

The blue-white-like structure
This dermoscopic aspect was found in 18 lesions.
Discussions

Acquired hemangiomas are lesions that can be diagnosed dermoscopically, the hemoglobin in the skin being the second chromophore at this level that one has the possibility to observe.

The hemoglobin can dermoscopically generate variable colors from red to bluish red, blue, or even black in case of thrombosis. The dermoscopic chromatic in hemangiomas is, generally, rich: in our study, 11 lesions had 4 or 5 colors, aspect that creates difficulties for differential diagnosis with melanoma, even in experienced hands.

We didn’t find a significant statistical association between the rich chromaticism and the dimension of the lesions, as it is the case for melanoma [4].

A specific dermoscopic characteristic of the hemangiomas is presence of lacuae (dermoscopic structural elements representing dilated vascular spaces in the papillary dermis). Their form and dimension vary, and they are sharply-bordered. Lacunae attenuate under vitropression but they never completely disappear.

These lacunae form the lacunar pattern specific for hemangiomas. These elements have to be analyzed carefully, in order to distinguish them by the red globules appearing in the melanoma, as the expression of the amelanotic melanocytic nests [5].

Medical literature indicates a possible caveat for melanoma identification by description of a particular dermoscopic aspect imitating hemangioma (hemangioma-like melanoma). This issue has to be always kept in mind when dermoscopically evaluating a lesion, irrespective of its nature [6].

The existence of a red-purplish color, and a lacunar pattern in a lesion are key-elements that allow an easy diagnosis [2].

The red color was found in 22 of the 23 lesions we studied, and the lacunar pattern in 13 of these.

The absence of these two dermoscopic criteria generates difficulties in diagnosis, making sometimes impossible the dermoscopic differentiation from a malignant melanocytic lesion.

In the lacunar pattern, the lacunas are separated by a white or white bluish coloration, mainly lattice disposed, that can rarely generate difficulties to differentiate from the blue-white veil of melanoma. In our study, from the 21 lesions dermoscopically diagnosed as hemangiomas or collision lesions, 13 had lacunar pattern, and 10 had reticular white bluish coloration, both aspects allowing a correct and easy diagnosis.

Both lesions that were dermoscopically diagnosed as nodular melanoma lacked the lacunar pattern and presented a nonreticulate, homogeneous, blue-white coloration, with an undistinguishable aspect from the characteristic blue-white veil of melanoma. In the case of these two lesions, the existence of structureless areas of black color, generated by thrombosis, also contributed to the increase in the difficulty of the diagnosis, thus justifying the high suspicion of melanoma.

The dermoscopic nonspecific pattern in these two lesions also sustained the diagnosis of nodular melanoma, together with the other already mentioned elements. In literature, this pattern is associated with melanoma, basal cell carcinoma, spinocellular carcinoma, dysplastic nevus, Spitz nevus, papillomatous nevus, hemangioma, angiokeratoma, collision lesion [7,8].

The main limitation in this study was the limited number of cases, that did not allow us to generalize our results. This is a case-series and the conclusions we obtained may be useful for further research.

Conclusions

In our study, the difficulties of clinical and dermoscopic diagnosis in acquired hemangiomas were related neither with their dimension, nor with their chromatic richness. The diagnosis of hemangioma was clinically and dermoscopically established for 16, respectively 21 of the studied cases. The dermoscopy allowed the immediate diagnosis of hemangiomas in the majority of the cases; also, for the hemangiomas with clinical black or bluish-black coloration, it allows the correct classification and exclusion of the suspicion of melanoma; in collision lesions, the clinically visible red coloration has to be differentiated from that generated by neovascularization present in malignant lesions.

The difficulties in diagnosis appear when either lacunar pattern is absent, a bluish-white pigmentation (similar to the blue-white veil of melanoma) is present or structureless areas of black colour (alike those of melanocytic lesions) are identified. The dermoscopy improves the performance of the clinical diagnosis but, as any other method, it has its limits [9,10]. When the dermoscopic suspicion of melanoma appears, it is advisable to tell the patient that the lesion must be excised in order to establish its true nature by histopathologic examination, the
histopathology being the golden standard in tumor diagnosis [11,12].

In such cases, surgical excision with narrow margins of 2-3 mm is recommended; if histopathologic diagnosis imposed, re-excision will be performed in a second step.

References


