Preoperative analysis of cutaneous tumors

Análise Pré-operatória de tumores cutâneos

ABSTRACT

Dermatoscopy can be used in the pre-operative analysis of melanocytic and non-melanocytic tumors. The effectiveness of this technique can be demonstrated in the selection of the best site for carrying out excisional biopsies, in the delimitation of tumoral margins, in the pre-operative estimation of tumoral thickness of melanomas, and in the screening of recurrences.

Keywords: dermoscopy; surgery; dermatology; melanoma.

RESUMO

A dermatoscopia pode ser utilizada na análise pré-operatória de tumores melanocíticos, e não melanocíticos. Demonstra-se a utilidade desta técnica: na escolha do melhor local para realização de biópsias incisionais, na delimitação das margens tumorais, na estimativa pré-operatória da espessura tumoral do melanoma e na triagem de recidivas.

Palavras-chave: *dermatoscopia; cirurgia; dermatologia; melanoma.*

The importance of the use of dermatoscopy in the pre-operative period was illustrated in a pioneering study carried out by Rona Mackie in 1971, [1] who demonstrated that applying a thin layer of olive oil on a lesion made it more translucent and facilitated its examination. In addition to the proven effectiveness in increasing the sensitivity and specificity for the clinical diagnosis of melanomas, dermatoscopy can and should be used in the pre-operative analysis for both melanocytic and non-melanocytic tumors. Below are some important dermatoscopy pre-operative applications, among others:

- Aids in the selection of the best site for performing incisional biopsies
- Helps delimit tumorous margins
- Provides a pre-operative estimate of tumor thickness
- Helps detect recurrences

When indicated, incisional biopsies should be performed at the site where the most significant structures – those that can help determine both the tumor's cellular lineage and its possible malignancy – were found. In melanocytic lesions, the

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dermatoscopic structures that are most indicative of malignancy are radial striae, blackened points, blue-grayish veil, rhomboidal structures and parallel crests (Figure 1). In basocellular carcinoma ovoid nests, leaf-like areas, spoke-wheel areas, and blue-gray globules must be looked for.

Poorly delimited tumors, such as non-solid basocellular carcinomas and lentiginous-type melanomas, which possess a high recurrence rate, can have their margins better delimited with the use of dermatoscopy. Knowledge of vascular patterns (arboriform telangiectasias, in the case of basocellular carcinomas and asymmetric follicular openings, and rhomboidal structures and granularity, in the case of lentiginous melanomas) is useful in the accomplishment of that task [2] (Figure 2) In addition, there are studies that correlate the use of dermatoscopy to the number of surgical stages performed in Mohs Micrographic Surgery.[3]

Given the importance of tumors thickness (Breslow Index) in the definition of the stages and consequently in the procedure to be adopted, several image methods, such as high frequency ultrasound and optical coherence tomography, have been employed in the pre-operative evaluation of the thickness of melanomas. Through the correlation of clinical-dermatoscopic and histopathologic examinations, it is possible to estimate the probable Breslow Index before an excisional biopsy is actually performed. For instance, palpable nodular melanomas that present milky erythrocyte have a 97% probability of having a thickness greater than 0.75 mm (Figure 3). Conversely, non-nodular melanomas, which present only atypical pigmented network, has a 100% chance of being thinner than 0.75 mm [4] (Figure 4).

As with everything in oncology, the earlier the tumorous recurrences are detected, the greater the probability of success of

Figure 1 - In situ lentiginous-type melanoma located in the palpebral region. Incisional biopsy is indicated due to the location of the lesion. The incisional site was chosen because it presented a greater concentration of dermatoscopic structures

Figure 2 - Recurrent basocellular carcinoma in only one side of the scar resulting from previous surgery in the frontal region.

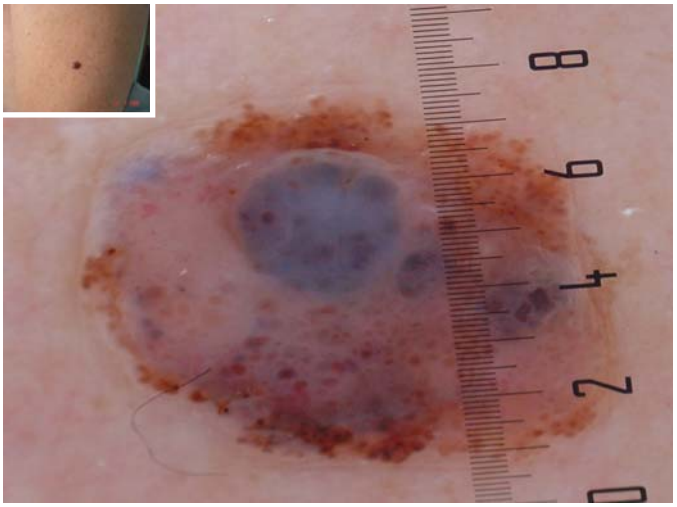

Figure 3 - Nodular melanoma presenting milky erythrocytes. The probability of presenting Breslow Index > 0.75 mm is 97%

Figure 4 - Maculous lesion presenting atypical pigmented network, with a 100% probability of presenting a thickness < 0.75 mm

Figure 5 - In situ lentiginous-type melanoma recurrence. Recurrent lesion after extensive resection with flap rotation. Detail: dermatoscopy showing ring-granular pattern

the new procedure. From this point of view, dermatoscopy stands out as an excellent tool for the follow-up of surgical scars, notably in the in situ lentiginous type of melanoma due to its high rates of local recurrence when using conventional margins [5] (Figure 5). Dermatoscopy is therefore an accessible and proven method that provides great support in the pre-operative approach to cutaneous tumors. Other more sophisticated image-based methods, such as laser reflectance confocal microscopy, will certainly progressively gain popularity. Nonetheless, it is unlikely that they will surpass the practicability and low cost of the manual dermatoscope. ●

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