Reed nevus (pigmented spindle-cell nevus): a report of three cases with distinct dermoscopic patterns

Nevo de Reed (nevo de células fusiformes): relato de três casos com padrões dermatoscópicos distintos

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Abstract: Reed nevus or pigmented spindle-cell nevus may mimic cutaneous melanoma; however, its dermoscopic and histopathological characteristics are different. This case report describes three patients with distinct clinical, dermoscopic and histopathological presentations, which were correlated to enable a differential diagnosis to be made between melanoma and Spitz nevus
Keywords: Dermoscopy; Melanoma; Nevus, spindle cell

Resumo: O nevo de Reed ou nevo de células fusiformes pigmentado pode ser um simulador do melanoma cutâneo. Apresenta, entretanto, diferentes características dermatoscópicas e histopatológicas. Trata-se de relato de três pacientes com apresentações clínicas, dermatoscópicas e histopatológicas distintas, correlacionando-as no auxílio diagnóstico deste com o melanoma e nevo de Sptiz.
Palavras-chave: Dermoscopia; Melanoma; Nevo fusocelular

INTRODUCTION

Reed nevus (RN) or pigmented spindle-cell nevus (PSCN) was first described by Reed in 1975 [1-3] and later by Ainsworth [4] as a distinct type of nevus. [1] These authors described the lesion as an expansive, intensely and uniformly pigmented plaque or papule, generally found on the legs of women in their twenties or thirties. Although some authors use the term RN to describe a nosological entity that differs from the Spitz nevus, others consider it to constitute a pigmented variant of that disorder. [1-5]

In view of the dense pigmentation and the abrupt onset of the lesion, differential diagnosis with melanoma is important. Dermoscopy is an extremely valid exam that permits distinction to be made and a definitive diagnosis to be reached in the majority of cases. [6,7] According to Steiner et al. [8-10] there was an improvement in diagnostic accuracy in cases of RN from 46% with clinical examination to 93% with dermoscopy.

Various authors have described the dermoscopic characteristics of RN, including a central, atypical reticular depigmentation and a regular, prominent pigmented network that ceases abruptly at the margins of the lesion. [8]

The dermoscopic patterns of RN follow the clas-

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sification proposed by Stolz (Figure 1). [11]

Kreush and Rassner suggested that the globular, starburst and reticular patterns constitute stages in a development sequence. [11-13]

Argenziano *et al*. [10] redefined certain features of RN and correlated them with specific histopathological characteristics. These authors recognize only three principal dermoscopic patterns:

Starburst pattern:

This pattern occurs in 53% of cases and is characterized by the presence of intense, irregular pigmentation from the center towards the margins, similar in appearance to a central or radial explosion.

Globular pattern:

This pattern occurs in 22% of cases and is characterized by the presence of pigmentation at the center, and pigment globules at the edges, without the radial appearance of the starburst pattern.

Atypical pattern:

This pattern occurs in 25% of cases and a quarter of these may present atypia at histopathology. It is characterized by its asymmetrical shape, diffuse irregular pigmentation (smudges) and whitish-blue veil. [10-14]

The atypical dermoscopic RN pattern may be indistinguishable dermoscopically from melanoma and in these cases differentiation is only possible by histopathology. [11]

Minimal deviation melanoma (MDM), pigmented spindle-cell type, constitutes an important differential diagnosis with RN. Some authors suggest that certain cases of MDM, a variant of the atypical Spitz nevus, may originate from premalignant dysplasias of a pigmented, spindle-cell type; therefore, surgical removal is always recommended. [1]

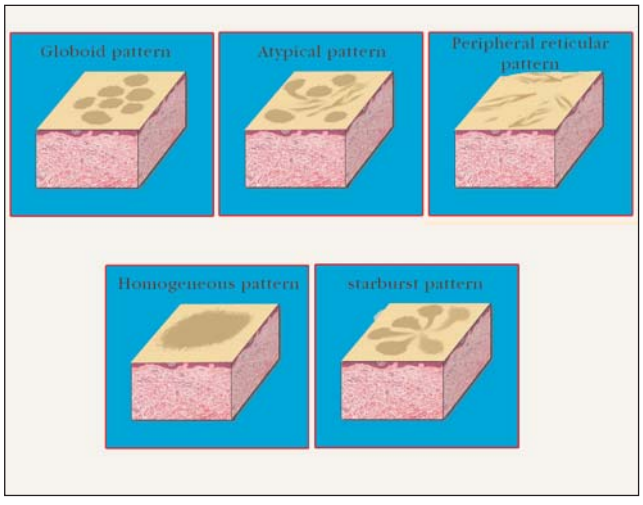

Figure 1: Schematic representation of dermoscopic variants of RN proposed by Stolz and modified by the authors

The following are three reports of cases of Reed nevus with different dermoscopic patterns. Dermoscopic findings were correlated with histopathology. In one of the cases shown here, atypical histopathological characteristics were found that enabled an important differential diagnosis to be made with melanoma and dysplastic nevus.

CASE REPORTS

Case Report 1

A white, 18-year old male student sought medical care, reporting the appearance of a highly pigmented lesion on his right thigh of approximately one year's duration. At dermatological examination, an intensely pigmented, symmetrical papule was found, with regular margins, measuring around 0.5 cm in diameter, located on the patient's right thigh (Figure 2A). Dermoscopic examination of the lesion showed intense pigmentation from the center towards the edges of the lesion, resembling a central explosion, with branched streaks in a radial arrangement, forming a reddish crown, which is characteristic of the Reed nevus with the starburst dermoscopic pattern (Figure 2B). Histopathology revealed the presence of compacted nests of pigmented spindle-shaped melanocytes, which explains the presence of streaks as shown at dermoscopy (Figure 2C).

Case Report 2

An eight year old, white schoolgirl was brought for consultation due to a mark on her face. Dermatological examination revealed an intensely pigmented, symmetrical lesion with regular margins and no variation in color or diameter, measuring around 0.5 cm and located on her left cheek (Figure 3A). Dermoscopy showed an intensely pigmented lesion with a low dermoscopic score according to the ABCD rule of dermoscopy, thus characterizing a low risk of malignity. Evaluation also showed the presence of a regular target pattern with a dark (black) center and globules of brown pigment at the edges, which is characteristic of Reed nevus, globular pattern (Figures 3B and 3C). Although the dermoscopic characteristics of the lesion suggested that it was benign, certain clinical/dermoscopic features suggested malignancy, including the sudden appearance of the intensely pigmented lesion accompanied by the presence of globules at the margins and the whitish veil, which are common characteristics of high-risk melanocytic lesions such as melanoma. Therefore, a decision was made to remove the lesion surgically. It was found that the globules detected by dermoscopy corresponded histopathologically to homogenously distributed nests (Figure 3D).

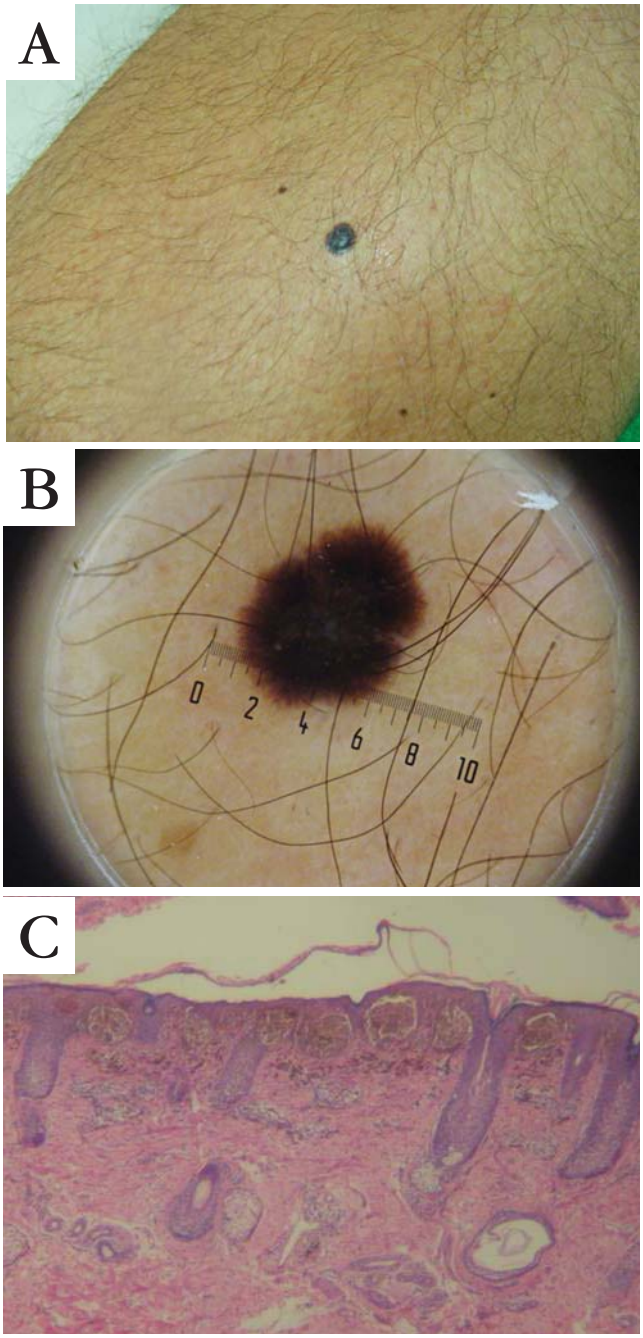

Figure 2: Case 1 - A. Clinical lesion on the left leg. **B.** Dermoscopy: RN, starburst pattern. **C.** Histopathology: RN, dermoscopic starburst pattern, presence of compacted nests of spindle-shaped melanocytes, causing the formation of the streaks seen at dermoscopy

Case Report 3

A white housewife sought medical care because of the appearance of an intensely pigmented lesion on her right thigh that had been present for approximately four years, increasing slightly in size over this time. Dermatological examination revealed a highly pigmented, asymmetrical lesion with irregular margins and a variation of four colors: light brown, dark

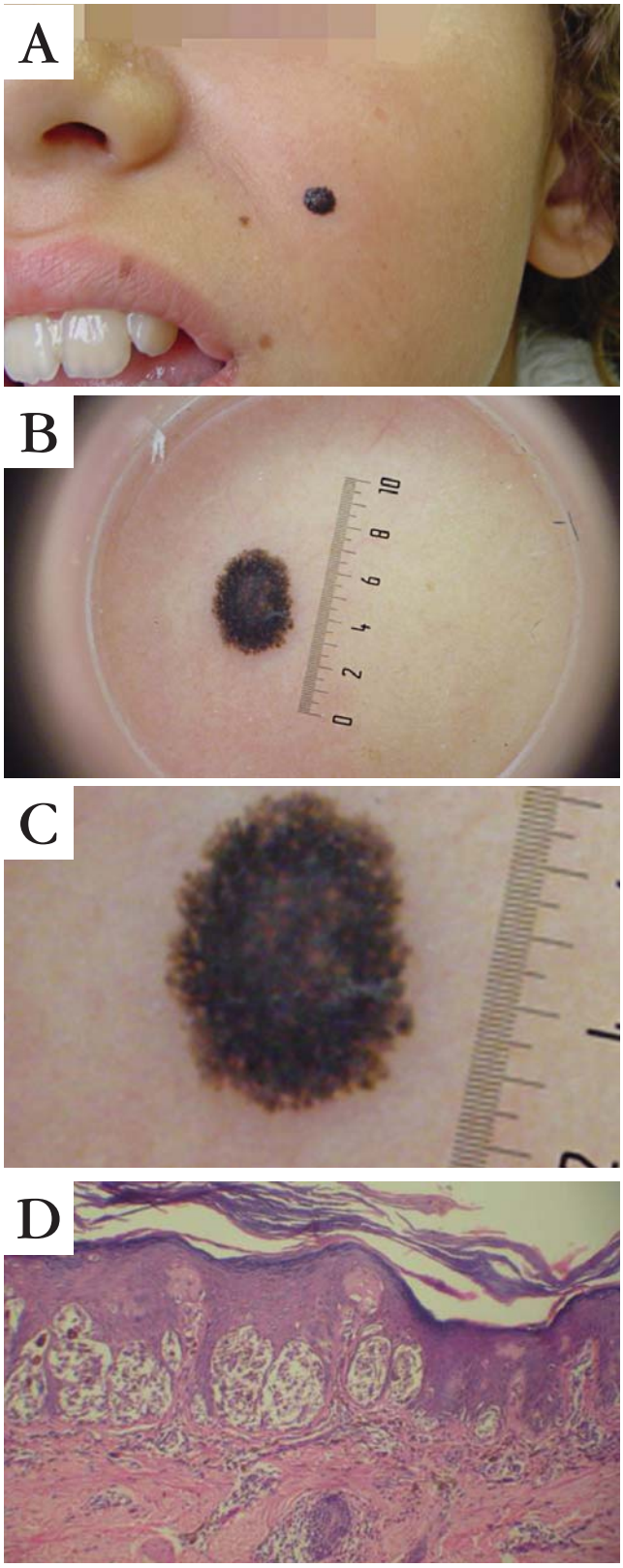

Figure 3: Case 2 - A. Clinically: clearly defined, intensely pigmented dome lesion located on the left cheek. **B.** Dermoscopy: Reed nevus, globular pattern. **C.** Dermoscopy: Regular target pattern with globules at the margins. **D.** Histopathology: the globules seen at dermoscopy correspond histopathologically to the presence of homogenously arranged nests

brown, black and bluish-grey (Figure 4A). Dermoscopy revealed the presence of a pigment network characteristic of melanocytic lesions, branched streaks on the side of the lesion, and the presence of globules. The streaks radiated in the direction of the normal skin, sometimes narrowing and forming a brown crown characteristic of Reed nevus, reticular dermoscopic pattern (Figure 4B). Since the dermoscopic ABCD score was high, it was decided to remove the lesion surgically. Histology of the lesion showed a proliferation of melanocytes at the center with the presence of large, oval-shaped, hyperpigmented nests. Epidermal hyperplasia was also found, which, when present and associated with numerous melanophages in the dermis, formed the bluish-white veil seen at dermoscopy (Figure 5). Around the edges, a proliferation of individualized, asymmetrically distributed cells was found in the epidermis, corresponding to the atypical characteristic of the lesion represented by the streaks found at dermoscopy (Figure 6). Histopathological diagnosis was melanocytic pigmented spindle-cell type nevus or atypical Reed nevus with intraepidermal components of oval inflammatory cells.

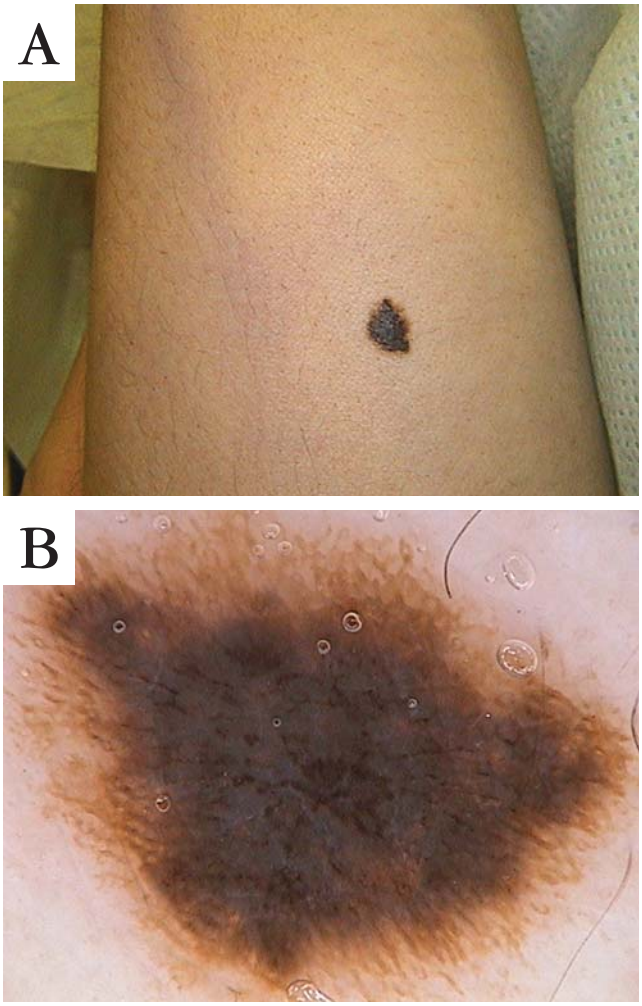

Figure 4: Case 3 - A. Clinically: intensely pigmented, asymmetrical lesion with irregular margins, variation of four colors. B) Dermoscopy of RN, reticular pattern.

DISCUSSION

Little was known about RN by dermatologists until fairly recently. The advent of dermoscopy has allowed the disease to be classified and has led to better understanding of the context of melanocytic lesions, permitting differentiation between Reed nevus, Spitz nevus and melanoma, the diagnosis of which is confirmed by histopathology. Nevertheless, some authors defend the grouping of pigmented Spitz nevus and Reed nevus as one single entity in view of their common features.

No definite correlation has been made in the literature between dermoscopy and histopathology in cases of RN. Nevertheless, in accordance with the cases illustrated here, we would like to suggest that this correlation is feasible in view of the peculiar aspects found in the different dermoscopic variants. Among the histopathology findings in the present study, common characteristics were found such as the presence of oval nests of spindle-shaped melanocytic cells or irregular melanocytes with a predominantly vertical axis, grouped compactly or distributed uniformly and a mononuclear inflammatory reaction in the presence of melanophages. Epidermal hyperplasia may not be evident (Figures 2C and 3D), but when present and associated with numerous melanophages in the dermis, it forms the whitish-blue veil shown in Figure 4. The wide peripheral network also shown in Figure 5 corresponds histologically to a pathology of

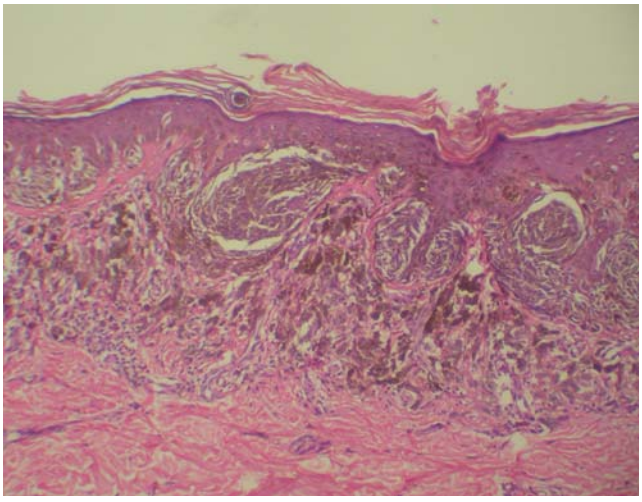

Figure 5: Case 3 - Histopathology

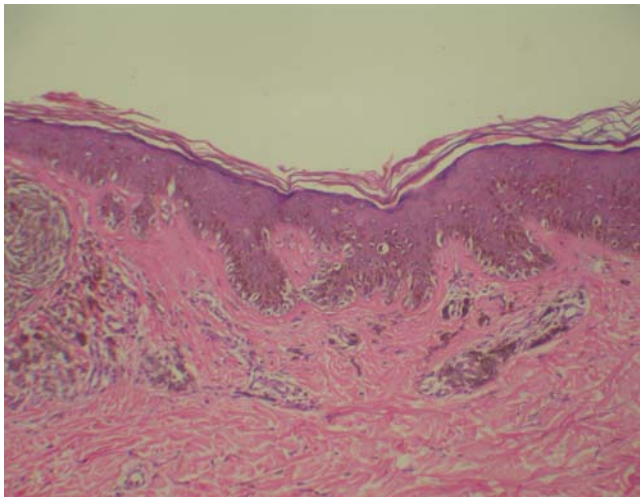

Figure 6: Case 3 - Histopathology: central portion of the lesion presenting nests of vertically distributed spindle cells, grouped at the center in a lentiginous pattern similar to Clark's nevus at the margins, associated with epidermal hyperplasia; intense pigmentation with numerous melanophages. Atypical histopathological pattern

melanocytes predominantly isolated at the dermal-epidermal junction, characterizing the atypical histopathological pattern of RN, and constituting an important differential diagnosis with Clark's nevi (dysplastic nevi).

The presence of globules and streaks at the margins of the lesion represents the clinically suspect appearance. The architectural arrangement of these nests varies from lesion to lesion, isolated cells sometimes being found. These histopathological variations explain why various dermoscopic presentations may be found within the same diagnosis. In globular RN, the homogenous distribution of the nests is responsible for the presence of globules at the margins (Figures 3C and 3D). The other variants found in our patients show compacted nests, leading to the formation of streaks (Figures 2C, 5 and 6). The presence of a lentiginous extension of these nests towards the normal skin constitutes the reticular dermoscopic pattern (Figures 5 and 6). ❑

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