

Case Reports

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Blue nevus of the nail apparatus: a case report

Nevo azul no aparato ungueal: relato de um caso

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ABSTRACT

Blue nail dyschromia has several differential diagnoses. Lesion growth, associated nail dystrophy, and nail extension require evaluation for surgical excision. We report the case of a 27-year-old woman presenting a bluish, semicircular stain, occupying about 50% of the lunula. The patient presented no changes in the overlying lamina, small alteration of the distal nail portion, localized onychoschizia-type layers, and no previous trauma or bleeding history. We performed partial avulsion of the plaque and shave biopsy, evidencing an intensely pigmented lesion. Histopathological examination was compatible with blue nevus. In this case, the nevus should be located in the sub-matrical position, thus not interfering with the nail plate color.

Keywords: Nevus, Blue; Nail diseases; Surgical procedures, Minor; Ambulatory surgical procedures; Nevus, pigmented; Skin neoplasms

RESUMO

A discromia azul das unhas possui vários diagnósticos diferenciais. Crescimento da lesão, distrofia ungueal associada e extensão periungueal requerem avaliação para excisão cirúrgica. Mulher, 27 anos, apresentava mancha azulada, semicircular, ocupando cerca de 50% da lúnula, sem alteração da lâmina suprajacente, com pequena alteração da porção distal da unha, com camadas do tipo "onicosquizia localizada", sem história prévia de trauma ou sangramento. Realizada avulsão parcial da placa e biópsia excisional por saucerização da lesão fortemente pigmentada. O exame histopatológico foi compatível com nevo azul. Sugere-se que, neste caso, o nevo se situasse em posição submatricial, não interferindo, portanto, na coloração da lâmina ungueal.

Palavras-chave: Nevo azul; Nevo pigmentado; Neves e melanomas; Unhas; Procedimentos cirúrgicos ambulatoriais

INTRODUCTION

Blue nail dyschromia has a wide variety of differential diagnoses, including mainly malignant and benign vascular and melanocytic lesions. Although most of these lesions are benign and have a good prognosis, the presence of lesion growth, associated nail dystrophy, and periungual extension require evaluation for surgical excision.¹

Blue nevus of the nail apparatus is a rare entity, with at least 11 cases described in the literature so far. It was first described in 1984 in a 4-year-old child with Klippel-Trenaunay syndrome who had a periungual nodule with satellite lesions on the back of the corresponding hallux and inguinal lymphadenopathy. An examination later showed a blue nevus composed of benign lymph node extension of the nevus component. Sub-matrix presentation (without striated melanonychia) is even rarer.

CASE REPORT

A 27-year-old woman sought medical consultation complaining of a dark spot in the lunula region of the right first digit for seven years, asymptomatic. Initially, the patient reported that she noticed the spot only when she moved the cuticle away. She observed progressive lesion growth, becoming more evident even without the cuticle removal. The patient also reported a small change of the distal portion of the nail, with localized onychoschizia. She denied a previous history of trauma or bleeding. The physical examination revealed a bluish semicircular macula, occupying approximately 50% of the lunula, without altering the overlying nail plate. Dermoscopy showed a homogeneous bluish background without longitudinal lines (Figure 1). There were no periungual changes, signs of trauma, or axillary lymphadenopathy. The patient reported no previous personal or family history of melanoma.

Due to the inaccurate report of lesion growth and its extension, the nail plate was surgically removed proximally to the nail bed halfway in the longitudinal direction. It evidenced an intensely pigmented, blackened, semicircular, well-delimited lesion with approximately 7 mm in its largest diameter (Figure 2). We opted for the pigmented lesion's shave excision biopsy to preserve the aesthetic aspect (Figure 3).

The microscopy observed hyperpigmented spindle and dendritic melanocytes' proliferation, forming bundles amid collagen fibers and sometimes permeating neural threads and some melanophages. These findings are consistent with blue nevus (Figures 4 and 5). The tissue studied showed no signs of malignancy.



FIGURE 2: Intensely pigmented lesion observed after mobilization of the proximal nail fold



FIGURE 1: Dermoscopy of the subungual lesion - bluish semicircular spot on the lunula



FIGURE 3: Shave excision biopsy of the lesion was performed

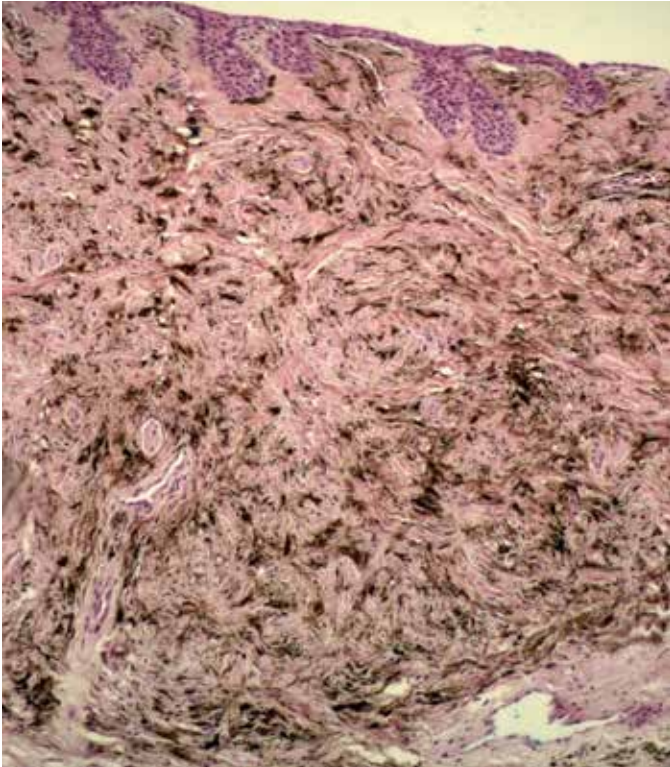


FIGURE 4: Histology showing proliferation of hyperpigmented fusiform and dendritic melanocytes, forming bundles in the middle of collagen fibers

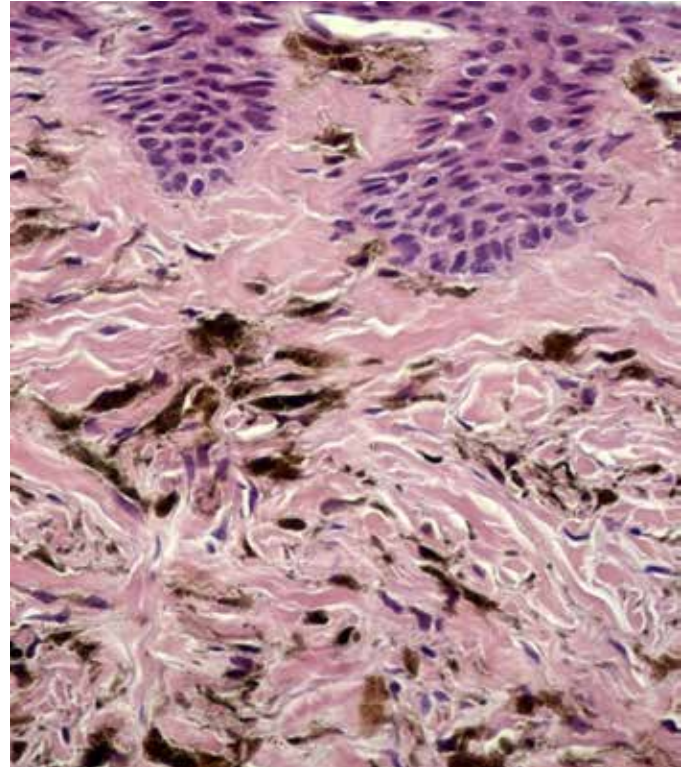


FIGURE 5: Histology in greater magnification

DISCUSSION

Blue nevus represents a benign proliferation of dermal melanocytes with active melanin production, unlike intradermal nevi and common compound nevi, which produces little or no melanin. The literature suggests that its pathogenesis arises from the interruption of neural crest cell migration in the dermis on the way to the epidermis during embryogenesis. The bluish color of the lesion occurs by preferential absorption of long wavelengths of light by melanin in the dermis, while the skin reflects short wavelengths of the blue spectrum, a phenomenon called the Tyndall Effect.²

Blue nevi can be acquired or congenital and affect preferentially young women. They usually occur on the skin and are rarely reported on extracutaneous sites such as orbital and conjunctival region, oral cavity, esophagus, lymph nodes, vagina, penis, and prostate.³

The blue nevi of the nail apparatus may originate from the matrix, the bed, or the deep periungual dermis. Because they are dermal structures, they usually present as longitudinal melanonychia-like lesions. Pigment-producing nevus cells can incorporate melanin into the nail matrix, leading to a nail-streak formation with brown stripes. The literature suggests that in the case here reported, the nevus would be in a sub-matrix position. Thus, it would not interfere with the lamina's color and present only as a subungual stain, without longitudinal melanonychia. The bluish color of the lesion is due to the Tyndall effect observed on the translucent nail plate.

The surgical approach of a pigmented lesion in the subungual apparatus is essential to rule out possible differential malignant diagnoses, especially melanoma and its metastatic form. Also, there are reports of malignant transformation of cellular blue nevus. However, the choice of operative conduct must be cautious, as it may lead to permanent dystrophy and functional limitation of the affected digit. In this scenario, one should consider the personal history, the clinical aspect of the lesion, and its dermoscopy. It is also recommended to evaluate any periungual lesions present.

The definition of non-conservative conduct is also based on observing aspects that suggest malignant behavior. Some of them are the presence of longitudinal melanonychia with a thickness higher than 5 mm, irregularities in color, increased thickness of the band distally to proximal, involvement of the first finger, dystrophy of the blade, and periungual pigmentation. Another evidence of malignancy to be highlighted is the report of recent lesion growth.⁴

Regarding the biopsy technique, removing the lesion only in its periphery should be avoided since the concentration of atypical cells in melanoma is predominant in the central portion of the neoplasia. With complete excision of the lesion, it is uncommon to resort to it. Thus, when clinical recurrence is observed, it is necessary to consider the possibility of malignant transformation, which is a rare event.⁵

CONCLUSION

In the presence of a pigmented lesion in the subungual apparatus, the propaedeutic is often based on a clinical-pathological correlation. However, there are factors to be considered to avoid unnecessary intervention resulting in aesthetic and functional impairment. ●

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