

Case Report

Congenital melanocytic nevus – surgical treatment

Nevo melanocítico congênito - tratamento cirúrgico

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ABSTRACT

Giant congenial melanocytic nevi are uncommon lesions that have a higher risk of developing into cutaneous melanomas. When located on the face, they can cause neurological problems, including leptomeningeal melanocytosis and epilepsy. They can also be unattractive. A case of a 17-year-old female patient with congenial melanocytic nevus affecting one-third of the right side of her face is reported. The patient underwent the lesion's resection and reconstruction with a partial skin graft in a single surgery. The objective of this study was to demonstrate a therapeutic proposal for congenial melanocytic nevi located in the periorbicular region.

Keywords: nevus, pigmented; nevi and melanomas; skin; transplantation, autologous

RESUMO

Nevos melanocíticos congênitos gigantes são lesões raras que apresentam risco aumentado de transformação em melanoma cutâneo. Quando localizados na face podem causar déficit neurológicos, incluindo melanocitose leptomeningea e epilepsia. Implicam risco de comprometimento estético importante. Relata-se caso de paciente do sexo feminino, de 17 anos, com nevo melanocítico congênito acometendo um terço da hemiface direita. Foi submetida à ressecção da lesão e reconstrução com enxerto de pele parcial em um único tempo cirúrgico. O objetivo deste trabalho é demonstrar proposta terapêutica para nevos melanocíticos congênitos localizados em região periorbital.

Palavras-chave: nevo pigmentado; nevos e melanomas; pele; transplante autólogo

INTRODUCTION

Congenital melanocytic nevi are present at birth and appears as a dark plaque, with hairs and a verrucose or thick surface. They occur in 1% of newborns.^{1,2} Although most melanocytic nevi are small, some reach large sizes. There are several definitions for giant melanocytic nevi (GMN), according to their size and location. Kopf and others suggest an arbitrary dimension for giant nevi of 20 cm; Pilney and colleagues consider a nevus in the face to be giant if it cannot be completely excised and sutured primarily in a single surgery; and Perhs measures it in palms (of the hand).³

The exact incidence of melanoma in GMN is unknown, nevertheless it is believed that there is a 4-10% risk of occurrence during an individual's life. ¹ Rhodes calculated the risk of melanoma as 16 times greater in patients with GMN than in the general population.³ Lesions in the head, neck and posterior

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middle line, and giant lesions with satellite lesions are at risk of leptomeningeal and neurocutaneous involvement.

Large pigmented facial nevi are unattractive and cause psychosocial difficulties.³ The purpose of the treatment is the total removal and reconstruction of the lesion, focusing on aesthetics and function.

A number of reconstruction techniques are proposed, such as cutaneous grafts of partial or total thickness, flap rotations, tissue expanders or the use of cultivated autologous skin cells. This study's objective is to describe a surgical treatment for facial GMN, with reconstruction through partial skin graft.

CASE REPORT

A 17-year-old female patient, originally from the city of Barretos, SP – Brazil, presented at the medical visit with a blackened asymmetric plaque, with regular borders, occurring in the right middle third of the face, encircling the periorbital, maxillary and malar regions, and the lower third of the ipsilateral frontal area, measuring 9 cm at its longest axis (Figure 1). The clinical general and neurological examinations did not present alterations.

The patient underwent the total exeresis of the lesion (Figure 2); the reconstruction was conducted using a partial skin graft from the right thigh. The attachment was made with a brown's dressing (Figures 3 and 4). A hypertrophic scar formed during the healing process, which improved after intralesional injections of corticosteroid (40 mg/ml triamcinolone acetonide, injectable suspension). Two 20 mg/ml applications were carried out at an interval of 30 days, combined with the use of a silicone sheet for local compression. Satisfactory results were verified in the post-operative period (Figures 5 and 6). Cosmetic camouflage with tattoo was carried out in the superciliary region.

the histologic examination showed groups of nevus cells without atypias in the dermal-epidermal junction and in the



Figure 2 - Surgical exeresis of the nevus

superficial and medium dermis, which characterized a compound melanocytic nevus (Figure 7).

DISCUSSION

In 1832, the magazine *Monograph of Dermatology* published a report of a “waist coat and drawers type nevus.” A more accurate description of a GMN was made in 1869, with its malignant potential noted by Jablokoff and Klein ten years later. In 1939, Conway described 40 cases; in 1959, Russel and Reyes reported on 53 cases; and Greeley and others presented 56 cases – of which half involved the face and hand.⁴

Approximately 2% of all melanomas occur in children and teenagers. Due to delayed diagnoses and the tendency towards a greater thickness (> 1.5 mm), melanomas tend to be more aggressive in that age group. One-third of cases originate from congenital melanocytic nevi. Signs suggesting melanoma include nodules, irregularities in the borders and texture, and colorimetric variations. In addition, malignant cells can also originate from dermic melanocytes and subcutaneous tissue, which hampers visual monitoring.¹

Margulis and colleagues referred to the functional problems, such as ptosis, that periorbital GMN can cause due to the weight they exert on the upper eyelid, ectropion secondary to the exophytic growth in the lower eyelid and chronic irritation of the cornea due to unordered growth of cilia.⁵

There is controversy about when the lesions should be removed. Although the real risk of malignization and what constitutes a dangerously large lesion are not known, many recommend early excision.³ Arons and colleagues agree with Rhodes that treatment should start when the infants are 10-14 months old.⁶ Warner and others prefer to start at six months due to the good elasticity of the skin at that age and the increased risk of malignant transformation at the age of three.¹

Several therapeutic procedures, such as topical application of nitric acid, phenol, cryotherapy, electrodissection, irradiation, dermabrasion and, more recently, laser have been proposed. The great disadvantage of those treatments is that histological evaluation of the lesion is impossible.

Margulis and colleagues treated 44 patients with palpebral



Figure 1- Melanocytic nevus on the right side of the face



Figure 3 - Grafting



Figure 5 - Two months after the procedure



Figure 4 - Brown's dressing

and periorbital lesions using full thickness expanded grafts from the supraclavicular region as the first choice for larger nevi and reconstruction of adjacent tissue after six months, in order to avoid the distortion of the palpebral canthi and cicatricial ectropion due to the retraction of the grafts.⁵ In their surgical algorithm for complex facial nevi, Gur and Zuker used z-plasty in two cases and serial reconstruction (including tissular expansion, flaps, grafts and serial excisions) in 11 cases. The larger periorbital lesions were grafted with total thickness retroauricular skin.³ In addition to the combination of tissular expansion and graft, Warner and others used cultivated autologous cutaneous cells, which provides cosmetic results, malleability and durability comparable to those of grafts, reducing the donor area's morbidity.¹

Flaps and cutaneous grafts are the main surgical procedures for tissular repair. Flaps can be defined as transfers of tissues connected to a vascular pedicle, and can be local (to cover an area close to that of the tissular loss) or from a distance (to cover non-adjacent areas, transferred in a free or indirect manner, with tubular flaps). Local flaps have the advantage of presenting practically the same characteristics as the defective skin; they are not

always accepted in the face, however, due to the physiognomic alterations that they can cause.⁷ Grafts are skin sections that are completely detached from the original area, without a pedicle, and transferred to the area to be repaired. They are classified as partial or total grafts according to the thickness of the dermis, and can be thin (0.15-0.30 mm), intermediate (0.30-0.45 mm) or thick (0.45-0.60 mm). Those of total thickness are thicker than 0.60 mm.⁷ Intermediate grafts are recommended for facial lesions more than 3 cm in diameter. The lateral and medial face of the thigh, the forearm and gluteus are donor sites.

The grafts are removed with Blair's blades or electric or pneumatic dermatomes. After the fixation of the graft, the application of a compression bandage is recommended to promote direct contact with the bed's vasculature, and to almost completely immobilize the area.⁷ The graft's integration process takes between five and seven days, when the vascularization is complete; the retraction and subsequent distention takes one to two



Figure 6 - Seven months after the procedure

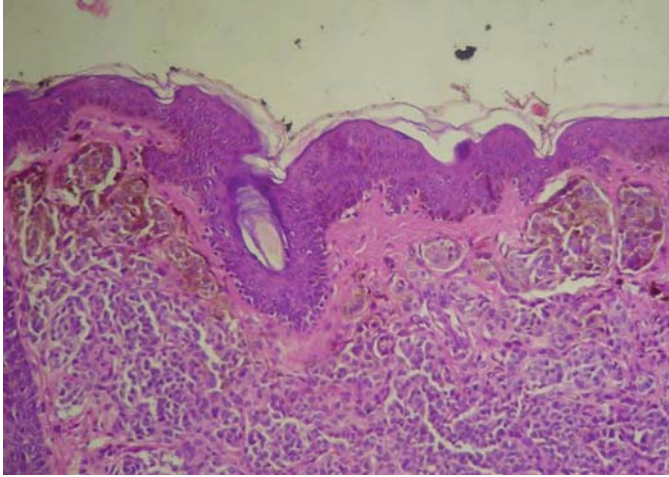


Figure 7 - histological samples of skin showing agglomerations of nevus cells in the dermis without atypias

months. Reinnervation, as well as color modifications, take place in the final phase.⁷ Late complications described are ectropion (in 6% of cases) and unattractive scars (in 16.7% of cases).³

In conclusion, the surgical treatment of periorbital region congenital melanocytic nevi reduces the probability of malignization and reverses the stigma associated with the aesthetic deformity. Skin grafts constitute an excellent reconstructive method following the resection of the GMN. ●

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