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## Case Reports

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# Basal Cell Carcinoma in the Face of Non-Syndromic Adolescents: From Rarity to a New Reality?

*Carcinoma basocelular na face de adolescente não síndrômico: de raridade para uma nova realidade?*

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## ABSTRACT

The increase in the incidence of basal cell carcinoma (BCC) affects all age groups, including young patients under twenty years old. Because it is poorly remembered in this group of patients, late diagnosis and treatment of this neoplasia may be more common. Like other age groups, excessive exposure to ultraviolet radiation is the main associated risk factor; however, genetic factors may also be involved in non-syndromic cases. We report a case of BCC on the face of an adolescent treated with Mohs micrographic surgery.

**Keywords:** Adolescent; Carcinoma, Basal Cell; Epidemiology; Mohs Surgery; Solar Radiation

## RESUMO

O aumento na incidência do carcinoma basocelular (CBC) atinge todas as faixas etárias, incluindo jovens abaixo dos 20 anos. Por ser pouco lembrado nesse grupo de pacientes, o atraso no diagnóstico e o tratamento tardio da neoplasia podem ser mais comuns. Assim como para outras faixas etárias, a exposição excessiva à radiação ultravioleta é o principal fator de risco associado, porém fatores genéticos também podem estar envolvidos nos casos não síndrômicos. Descreve-se um caso de CBC na face de um adolescente, tratado com cirurgia micrográfica de Mohs.

**Palavras-chave:** Adolescente; Carcinoma Basocelular; Cirurgia de Mohs; Epidemiologia; Radiação Solar

## INTRODUCTION

Basal cell carcinoma (BCC) is the most common malignancy in humans, and its incidence is increasing in recent decades. In Brazil, non-melanoma skin cancer represents 30% of all registered malignant tumors, with an estimate of approximately 176 thousand new cases for 2020.<sup>1</sup> Despite the low mortality rates, the tumor may present local invasive behavior and relapse after treatment, causing significant morbidity. Exposure to ultraviolet radiation represents the leading environmental risk factor associated with its genesis. Other factors are also related, such as light skin phototypes, advanced age, family history of skin carcinomas, and immunosuppression, in addition to behavioral aspects, such as a professional activity that requires frequent exposure to the sun, rural activity, and sunburn in youth.<sup>2,3,4</sup>

This article reports a case of basal cell carcinoma in an adolescent, emphasizing the importance of its diagnosis at an early age.

## CASE REPORT

A 16-year-old man reported a progressive facial lesion for two years. He had previously treated the lesion as nodular acne using topical medications. The patient had no personal history of continuous sun exposure and did not report previous intense acute exposure. He also did not have a family history of skin cancer.

The patient was skin phototype II, and the physical examination showed a 1.5 cm diameter pearly plaque in the left malar region, infiltrated, well delimited, and ulcerated (Figure 1). Dermoscopy revealed arboriform vessels on the lesion's entire surface, shiny white structures, and ulceration (Figure 2). We also observed grade II acne on the face. The patient did not present any other clinical alterations, such as palmoplantar pitting, breast hypertelorism, changes in the thoracic diameter, and frontal bone prominence. Skull tomography and panoramic radiography of the face, dental arch, ribs, and thorax showed no changes.

The skin biopsy proved it to be basal cell carcinoma, solid nodular subtype, with an infiltrative growth pattern invading the deep reticular dermis (Figure 3). The patient underwent surgical excision by Mohs micrographic surgery, with free margins in the first stage and closure by a sliding flap (Figure 4), with good evolution and good aesthetic result after six months of evolution (Figure 5).



**FIGURE 1:** Clinical aspect of the lesion: 1.5 cm plaque in the largest diameter, pearly shine, infiltrated edges, and central ulceration with hematic crust in the left malar region. Open comedones and erythematous papules are observed in the facial center (acne vulgaris)



**FIGURE 2:** Dermoscopy of the lesion with polarized light: presence of arboriform vessels on the entire surface, ulceration in the lower left quadrant, and bright white structures in the center (10x magnification)

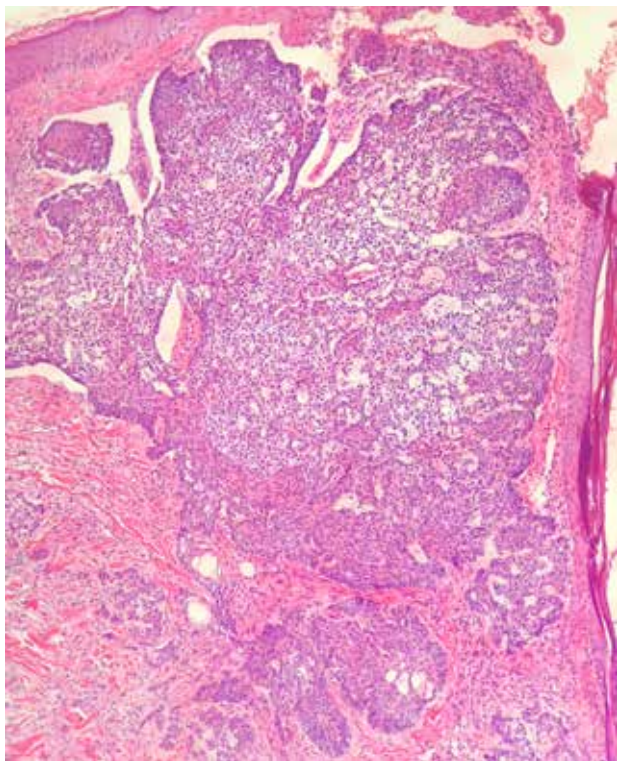
## DISCUSSION

There is a consensus that BCC incidence is increasing, both in the elderly and in young non-syndromic patients. Individuals under 40 years already account for more than 5% of diagnoses,<sup>2</sup> and the hypotheses for this phenomenon are not elucidated.

Greater cumulative exposure to ultraviolet radiation, time available for leisure, unprotected sun exposure, culture of tanning, ozone depletion (2% in the last 20 years), ethnic heritage, and skin phototype (phototypes I and II, for example) are probably the factors that most contribute to the BCC increased incidence.<sup>2,3,4</sup>

Young patients have more lesions on the trunk, superficial subtype, which are more associated with this type of exposure.<sup>5</sup> The habit of sunbathing is linked to five times higher risk of developing BCCs in the trunk.<sup>2,5</sup> The reported patient had a lesion on the face, solid nodular subtype, different from the young people's profile described in the literature.

Genetic factors are associated with the disease's appearance in young people, especially among syndromic cases, such as xeroderma pigmentosum and basal cell nevus syndrome. Sporadic cases also originate from genetic changes. The literature describes that between 30% and 75% of sporadic cases are associated with the patched hedgehog gene mutation. However, other genetic alterations are also described.<sup>4,5</sup>



**FIGURE 3:** Detail of histopathological examination of the piece with neoplastic arrangement of basaloid cells with palisade arrangement at the periphery, peritumoral retraction, and infiltration to the reticular dermis (hematoxylin & eosin staining)



**FIGURE 4:** Immediate postoperative appearance with sliding flap for closure of a surgical defect



**FIGURE 5:** Scar appearance six months after surgery

There is a theory that the sebum layer would act as a barrier to ultraviolet rays protecting the skin and preventing the appearance of BCC. Thus, oily and acne-prone skin would present higher protection and a lower incidence of BCC.<sup>6</sup> This theory does not fit our case, as the reported patient had oily skin and acne, which may have confused the general practitioner and the patient, delaying the diagnosis.

Men are more affected than women in a 2:1 ratio and with a higher number of lesions, probably due to greater sun exposure.<sup>4</sup>

## CONCLUSIONS

The increase in the incidence of this cancer in the younger population can represent growth in all age groups, especially its occurrence in the future older adults, as individuals with a history of BCC are at increased risk of another tumor's appearance. In five years, approximately 40% of patients will have another BCC lesion.<sup>7</sup>


As it is increasingly common, it is essential to advance this diagnosis in younger age groups. It would help to avoid delays in diagnosis, such as what happened to our patient who treated the facial lesion for two years as acne. It is crucial to institute preventive sun protection care from early childhood, as they are essential to reduce the future risk of developing BCC. ●




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