

Early-onset basal cell carcinoma

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SUMMARY: Turan E, Yurt N, Yeşilova Y, Türkçü G. Early-onset basal cell carcinoma. Turk J Pediatr 2013; 55: 354-356.

Basal cell carcinoma (BCC) is a common skin cancer that is responsible for approximately 75% of non-melanoma skin cancers. BCC occurs on sun-exposed areas in fair-skinned individuals; frequency increases with age and peaks in the seventh decade of life. Although it usually occurs in the elderly population, it has been reported in children as well. Here, we present a case of BCC in an eight-year-old child without any predisposing characteristics.

Key words: basal cell carcinoma, skin cancer, pediatric.

Basal cell carcinoma (BCC) is the most common skin cancer¹. While BCC is common in the elderly population and shows an increasing incidence with increasing age, it is quite rare in the pediatric population and often occurs in the presence of predisposing genetic conditions. "Isolated" or "idiopathic de novo" cases of BCC, which are not associated with inherited syndromes, are often associated with high-dose radiation therapy or severe or increased sun exposure^{2,3}. In the absence of genetic predisposition, clinicians often do not suspect BCC, which can lead to delays in diagnosis. However, early diagnosis of the lesion in childhood can prevent further growth of the BCC and thus may prevent the formation of extensive tissue destruction and scarring after excision. This article describes a case of BCC in a child who had no predisposing factor, with an emphasis on the histological diagnosis.

Case Report

An eight-year-old boy, Fitzpatrick skin type (FST) III, presented with a 0.2-0.6 cm, solitary, smooth, slightly translucent nodule on the right wing of his nose (Fig. 1). The lesion appeared and grew over time to become a small papule, but the patient was not bothered. The total skin examination did not reveal any other skin lesions. The patient's family history was negative for skin cancer or any related syndrome. His medical history was negative for precursor lesions, a genetic predisposition, or

other pathology. There was no history of severe sunburns. He denied exposure to therapeutic irradiation and artificial ultraviolet (UV) tanning. Clinically, the lesion was consistent with basal cell carcinoma (BCC).

Histopathologic examination of the biopsy specimen revealed lobules and columns composed of basaloid cells, which were projected from the epidermis into the dermis in focal areas, and tumoral cells had mitotic activity and nuclear atypia (Fig. 2). A characteristic palisade of cells was observed at the periphery of the tumor islands, and artefact retraction spaces between the epithelia and stroma were remarkable (Fig. 3). There was melanin pigment in the cytoplasm of some tumor cells. This morphologic appearance was accepted as BCC. The patient was consulted with the plastic surgery department and submitted to total excision of the lesion. There were no recurrences or new primary skin cancers during one year of follow-up.

Discussion

Non-melanoma skin cancers typically occur in the seventh decade of life in a manner that reflects intensive exposure to sunlight. Although it is one of the most frequent cancers in adults, the condition is quite rare in children⁴. Major risk factors include increased sun exposure, vitiligo-albinism, immunosuppression (acquired immunodeficiency syndrome [AIDS], drug use due to organ transplantation), and radiation⁵.

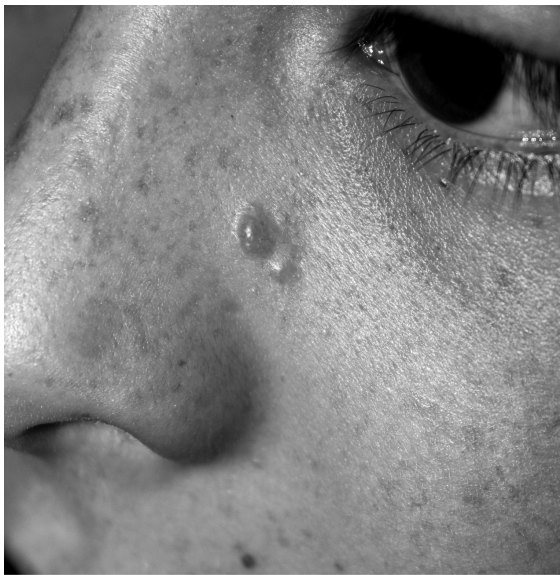


Fig. 1. Solitary, slightly translucent nodule on the right wing of the patient's nose.

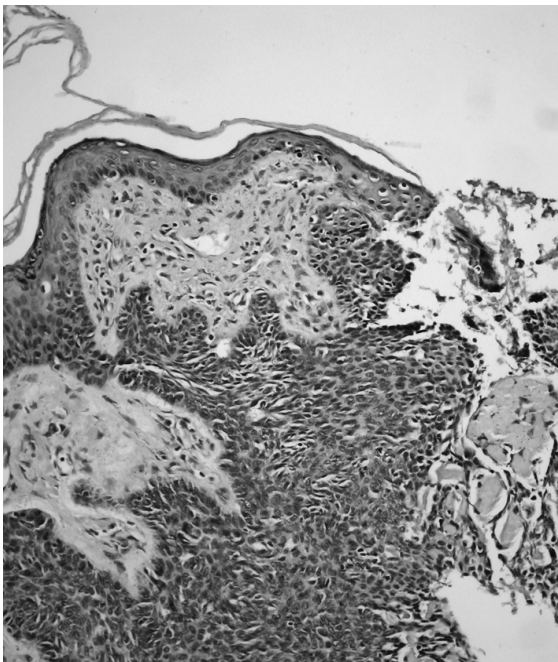


Fig. 2. Nests of basaloid cells with attachment to the overlying epidermis (hematoxylin & eosin [H&E]; magnification 40X).

Apart from these factors, genetic factors (such as Bazex syndrome, basal cell nevus syndrome, xeroderma pigmentosum, and nevus sebaceous) increase an individual's predisposition to the condition. High-dose radiation therapy and severe or increased sun exposure are also well-known risk factors for de novo BCC. De

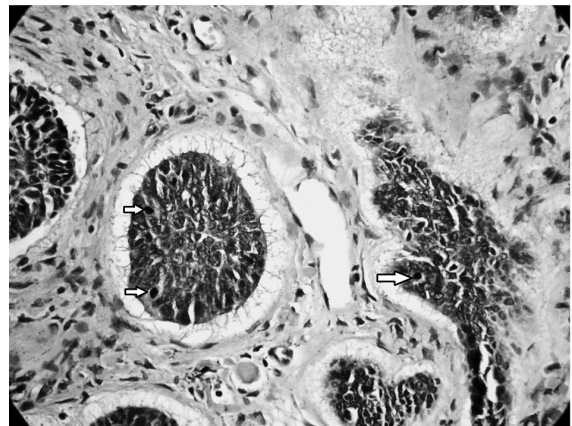


Fig. 3. Peritumoral retraction artefact and mitosis (white arrow) (HEX400).

novo cases of BCC without any associated genetic defects or syndrome are quite rare in children⁶. In our case, no predisposing factors other than fair skin and exposure to sunlight could be identified.

The differential diagnosis of BCC should include trichoblastoma and its variant, trichoepithelioma. Actually, trichoblastoma and trichoepithelioma share common architectural attributes⁷. Trichoblastoma can be referred to as "immature trichoepithelioma"^{8,9}. The characteristic feature of trichoepithelioma is keratinized material surrounded with basophilic cells, called "horn cysts". The presence of follicular differentiation, keratin cysts and calcification and the absence of clefts between basaloid cells and stroma favor the diagnosis of trichoepithelioma⁹. There is neither atypia nor mitosis in the tumoral tissue. However, in our case, mitosis in basaloid cells, stromal-tumor retraction and connection to epidermis were present, but no keratin cysts were observed.

Pediatric BCC patients should be questioned carefully to identify any potential predisposing factor. A genetic evaluation and testing should be performed to identify genetic defects such as Gorlin syndrome¹⁰.

Immediate surgical removal of the lesion is the first-line approach to treatment, as evidence exists to suggest that BCC has a more aggressive phenotype when arising in early life as compared with late adulthood. Alternative options include cryotherapy, radiation, curettage and electrodesiccation, and Mohs micrographic surgery⁶. Although it has been reported rarely in

the literature, dermatologists and pediatricians should keep in mind that, as in our case, BCC can occur in children without any predisposing genetic condition.

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