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Basal cell carcinoma: review of the literature on a case report

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ABSTRACT

Basal cell carcinoma is the most common malignant neoplasm of the skin in humans, originating from the basal cells of the epidermis and its adnexa. It is characterized histologically by the uncontrolled proliferation of cells that show similarity to normal basal cells. Chronic exposure to ultraviolet (UV) radiation is considered the main risk factor in its development, and sun-exposed skin, such as the face and upper extremities, is the most common location for the appearance of this disease.

The clinical presentation of basal cell carcinoma can vary, with different subtypes including nodular, superficial, sclerodermiform and pigmented, among others. Each of these subtypes exhibits distinctive clinical features, such as raised lesions with well-defined borders, flat plaques, fibrous or sclerotic appearance, pigmentation, and presence of ulcers. Variability in clinical appearance can make early and accurate diagnosis difficult, highlighting the importance of a thorough evaluation and consideration of biopsies to confirm the diagnosis.

Although basal cell carcinoma tends to have slow local growth and low metastatic capacity, it can cause significant cosmetic and functional damage when it invades surrounding tissues. Therefore, prompt treatment is essential to prevent complications and limit disease progression. Complete surgical excision, using techniques such as Mohs surgery, is the primary approach in the management of basal cell carcinoma. In addition, additional therapeutic modalities such as radiotherapy, photodynamic therapy and topical application of chemotherapeutic agents may be considered in selected cases.

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INTRODUCTION

Basal cell carcinoma is a malignant neoplasm of epithelial origin arising from the basal cells of the epidermis and skin adnexa. It is the most common type of skin cancer in humans and develops mainly in sun-exposed areas such as the face, neck and upper extremities.1

Histologically, basal cell carcinoma is characterized by the presence of tumor cells that resemble normal basal cells of the epidermis. These malignant cells have a monotonous appearance, with small, basophilic nuclei, and exhibit uncontrolled proliferation in the form of cords, nests or invasive islets in the dermis.2,3

The etiology of basal cell carcinoma is closely related to chronic exposure to ultraviolet (UV) radiation from the sun. UV rays damage the DNA of skin cells and alter DNA repair mechanisms, which contributes to the development of genetic mutations that promote malignant transformation of basal cells.4

Risk Factors

Basal cell carcinoma has several associated risk factors that may contribute to the development of this disease. These risk factors include:

Chronic exposure to ultraviolet (UV) radiation: UV radiation from the sun is the main risk factor for basal cell carcinoma. Prolonged and repeated exposure to UV rays, especially on exposed areas of the skin such as the face, neck and extremities, increases the likelihood of developing this disease.5

Fair skin and sun sensitivity: People with fair skin have less melanin, a protective pigment that absorbs UV radiation. As a result, they are less able to protect the skin from the damaging effects of the sun, making them more susceptible to basal cell carcinoma.5

Previous history of basal cell carcinoma: Those who have had basal cell carcinoma in the past have an increased risk of developing new skin tumors.6

Advanced age: Basal cell carcinoma becomes more common as we age. Cumulative sun exposure over the years increases the risk of developing this disease in older people.7

Male sex: Men have a slightly higher risk of developing basal cell carcinoma compared to women. This may be related to higher sun exposure and lower sun protection used by men.7

Occupational or environmental exposure to chemicals: Chronic exposure to certain chemicals, such as arsenic or coal tar, may increase the risk of developing basal cell carcinoma.7

Family history: There is a genetic predisposition in some cases of basal cell carcinoma. People with first-degree relatives, such as parents or siblings, who have had this disease have an increased risk of developing it.7

Immunosuppression: Individuals with a weakened immune system, whether due to autoimmune diseases, long-term use of immunosuppressive drugs or organ transplantation, are at increased risk of developing basal cell carcinoma.7

It is important to keep in mind that the presence of one or more risk factors does not guarantee the development of the disease, but it does increase the likelihood of its occurrence. Adopting appropriate sun protection measures and performing regular skin examinations can help reduce the risk of basal cell carcinoma and detect it at an early stage.7

Clinic

Basal cell carcinoma presents with a variety of clinical manifestations that can be described in detailed medical terms. These clinical presentations include:

Nodular type: This is the most common form of basal cell carcinoma and is characterized by a raised, round skin lesion with well-defined borders. The lesion may have a pearly or shiny appearance, and often has dilated blood vessels on its surface. The lesion may be ulcerated or crusted, and may grow slowly over time.8

Superficial type: This form of basal cell carcinoma presents as a flat plaque or lesion on the surface of the skin. The lesion is pink or light brown in color and may have a slightly raised border. As it grows, it may develop scaly or crusted areas, and often affects several contiguous areas of the skin.8

Sclerodermiform type: This variant of basal cell carcinoma is characterized by a fibrous or sclerotic appearance. The lesion may be flat or slightly raised, and its surface may be hard and whitish. There may be shrinkage of the surrounding skin, resulting in a stretched or rigid appearance.8

Pigmented type: This clinical presentation of basal cell carcinoma is characterized by the presence of pigmentation in the lesion. The lesion may have areas of brown, blue or black coloration, which may lead to confusion with melanoma. However, unlike melanoma, pigmented basal cell carcinoma usually has more defined borders and a nodular or ulcerated structure.8

Ulcerated type: Some basal cell carcinoma lesions may ulcerate, meaning that an ulcer forms on the surface of the lesion. These ulcers may have a moist appearance, with raised and irregular borders. The presence of an ulcer on a suspicious skin lesion may be a sign of more aggressive basal cell carcinoma.9

It is important to note that basal cell carcinoma can present other less common clinical variants, such as the cystic type, the fibroepithelial type, and the adenoid-cematosus type. Each of these variants has distinctive features that may influence its appearance and clinical behavior.9,10

Basal cell carcinoma can present in various clinical forms, such as nodular, superficial, sclerodermiform, pigmented and ulcerated. Recognizing these clinical features is essential for early detection and appropriate management of this malignant skin disease.11

Case Presentation

We present the case of a female patient of 7 years of age who was hospitalized for a hip fracture, however, upon noticing the significant lesion in the right supraciliary area, she consulted dermatology. She reported an elevated right supraciliary lesion measuring approximately 2 x 2 centimeters, with the presence of significant telangiectasias on the surface without knowing the time of evolution, but refers to slow growth, so a presumptive diagnosis of basal cell carcinoma was made. In addition to the presence of meliceric crusts in desquamative phase in the area of the cheeks.

zA referral to plastic and reconstructive surgery was made to obtain a surgical approach and resect the lesion.

Fig.1 Lesion in the right supraciliary area.

Fig. 2 Myeliceric crusts in the malar area.

There was no evidence of extension to other areas, however a CT scan was performed to rule out metastasis to the brain or lung. The piece was removed without complications and sent to pathology, proving the presence of a basal cell carcinoma.

CONCLUSIONS

In conclusion, basal cell carcinoma is a cutaneous malignant neoplasm derived from the basal cells of the epidermis and its adnexa. It is characterized by an uncontrolled proliferation of tumor cells that show similarity to normal basal cells. Chronic exposure to ultraviolet radiation is identified as the main risk factor in its development, and areas of skin exposed to the sun, such as the face and upper extremities, are the most frequent sites of appearance.

The clinical presentation of basal cell carcinoma can be highly variable, with multiple subtypes exhibiting distinctive features. These subtypes include nodular, superficial, sclerodermiform, pigmented, and other less common types. Each subtype exhibits specific clinical features, such as raised lesions, flat plaques, fibrous or sclerotic appearance, pigmentation, and ulcers. The diversity in clinical appearance can make early and accurate diagnosis difficult, highlighting the importance of a thorough clinical evaluation and biopsies to confirm the diagnosis.

Although basal cell carcinoma generally exhibits slow local growth and low metastatic capacity, it can invade surrounding tissues extensively and cause significant cosmetic and functional damage. Therefore, timely and appropriate treatment is essential to prevent complications and limit disease progression. Complete surgical excision, such as Mohs surgery, is the primary approach in the management of basal cell carcinoma, but other therapeutic modalities, such as radiotherapy, photodynamic therapy and topical application of chemotherapeutic agents, may be considered on a case-by-case basis.

Basal cell carcinoma is a common type of skin cancer that develops from the basal cells of the epidermis. Chronic exposure to UV radiation is a major risk factor in its occurrence. The clinical presentation can vary widely, and accurate diagnosis and treatment are crucial to avoid complications and limit disease progression. Specialized medical care and implementation of prevention and early detection strategies are critical to effectively address basal cell carcinoma and improve clinical outcomes for affected patients.

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