

Squamous cell carcinoma in Hand – Case report

Carcinoma de células escamosas na mão - Estudo de caso

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Abstract

Introduction: Squamous cell carcinoma (SCC) is a type of skin malignancy that originates in the squamous layer of the epidermis. A lower incidence than basal cell carcinomas is reported. There is a predominance of areas heavily exposed to sunlight. **Objectives:** To report a case of squamous cell carcinoma in left hand compromising the hypothenar region. To carry out a literature review and emphasize the main methods of diagnosis and treatment. **Methods:** Information obtained from medical records, photographic record of pre and post-operative. **Result:** Histopathological diagnosis was made, confirming squamous cell carcinoma due to the evolution of metastatic basal cell carcinoma, with the removal of bones: 5th metacarpal and scaphoid. After relapse, requiring amputation of the left hand. **Conclusion:** To report a rare case of bone metastasis derived from a skin cancer.

Keywords: Cancer. Skin Cancer. Squamous cell carcinoma.

Resumo

Introdução: O carcinoma espinocelular (CEC) é um tipo de neoplasia maligna cutânea que se origina na camada escamosa da epiderme. Relata-se menor incidência do que os carcinomas basocelulares. Há predominância por áreas intensamente fotoexpostas. **Objetivo:** Relatar um caso de CEC que compromete a região hipotenar da mão esquerda e realizar uma revisão de literatura. **Relato de Caso:** Paciente com albinismo, após ser submetida a várias remoções basocelulares difusas, apresentou lesão ulcerada que compromete a região hipotenar, o 5º metacarpo e o osso pisiforme da mão esquerda, na qual se realizou exérese. Encaminhou-se um tecido ressecado da região afetada para exame histopatológico, sendo diagnosticado o carcinoma espinocelular. **Conclusão:** A ocorrência de metástase óssea é rara, e a cirurgia micrográfica de Mohs é considerada o tratamento padrão-ouro para CEC de alto risco.

Palavras-chave: Cancer. Cancer de pele. Carcinoma de células escamosas.

INTRODUCTION

Squamous cell carcinoma (SCC) is the second most common form of non-melanoma skin cancer¹. It arises from malignant epidermal keratinocytes, which have the capacity for metastatic spread. The SCC is a well-recognized complication of chronic scars, ulcers and sinuses². Initially, it is a thickening of the skin, progressing to hardened plaque. It has vertical and lateral growth, becomes ductile and is usually fixed to deep layers. Its surface may ulcerate, become keratotic or vegetative. Its margins are firm and high, sometimes irregular³. It occurs predominantly in intensely sun-exposed areas of the skin such as head, neck and back of the hands⁴.

Its etiology is multifactorial, involving both environmental carcinogens and genetic factors⁵. Among the environmental factors have been linked to the SCC: sun exposure primarily, smoking and alcoholic beverage consumption (among the main causes), arsenic exposure, diet, carcinogenic industrial (coal tar and oils), ionizing radiation. Concerning the genetic causes, we can mention albinism, xeroderma pigmentosum, epidermolysis bullosa as well as epidermodysplasia verruciformis⁶.

Other factors associated with increased incidence of skin cancer are: male sex, age, outdoor, occupation, pale skin, easy sunburn, use of immunosuppressive drugs, human

papillomavirus infection and HIV, and some inherited disorders, such as chronic inflammatory skin disease (e.g., discoid lupus erythematosus) and polymorphisms in genes that evolved on folate metabolism^{6,7}.

More than two million cases of skin cancer are diagnosed annually in the USA and around 700 000 cases of SCC are diagnosed and the frequency is rising worldwide^{8,9}.

An estimated 65% of SCC arise from precursor lesions termed actinic keratoses which is associated with epidermal atypia and is thought to represent continuum of progression from dysplastic keratinocytes to SCC⁹. The keratosis damages the skin, so SCC usually arise as skin colored papules, nodules or plaques. The lesions may be hyperkeratotic, ulcerated, bleed or painful⁶.

UV radiation causes mutations in cellular DNA, especially in the p53 suppressor gene, promoting the carcinogenic process by inducing a state of cutaneous immunosuppression. UVB irradiation directly damages cellular DNA, while UVA produces the formation of toxic reactive oxygen^{6,10}.

Regarding the clinical state, patients are asymptomatic.

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However, in advanced lesions the clinical manifestations vary widely, often resulting in loss of function, which leads patients to seek medical help, although late.

Although rarely fatal, in advanced or aggressive cases, there is a decrease in quality of life and psychosocial sequel and devastating aesthetic, functional impairment, and other serious consequences¹¹.

CASE REPORT

VCP patient, aged 59, female, Caucasian with albinism, underwent several removals of diffuse basal cell carcinomas. Featuring ulcerated lesion, affecting the back of the left hand and the volar (hypothenar region) with 01 year of evolution. The patient underwent imaging tests. In chest X-ray, there were no abnormalities; on radiographs of the hand, the patient's pisiform bone evidenced a compromised aspect. In serum tests, the leukocytes and coagulation studies were normal.

We performed resection of the entire affected region, including the 5th metacarpal and pisiform. Given this, a contra lateral inguinal flap to cover the wound area was made which, after a week, suffered necrosis infectious. Afterwards, a surgical debridement was performed, awaited the granulation of the wound carrying the partial skin grafting, which was taken from the left anterior thigh.

Figure 1. Photograph of the left hand before the surgery.



Figure 2. Photograph of the hand after the surgery, the resection of the affected region.



The resected tissue was sent for histopathological examination, which revealed a squamous cell carcinoma with clear margins, dropping the need of radiotherapy and / or chemotherapy. The examination also showed that pisiform bone showed signs of tumor invasion, but there were no metastases to axillaries nodes.

However, there was recurrence of the lesion and a biopsy was performed, which showed tumor recurrence. The patient was then referred to another center, which carried out the hand amputation.

DISCUSSION

According to the etiology of SCC, there is influence of environmental factors inherent to the individual and favoring the appearance of cancer, such as the albinism presented in the case report.

The diagnosis of SCC is basically a physical examination to evaluate skin lesions such as actinic keratoses, which are premalignant precursors, one of the most common reasons for consulting a dermatologist¹². Other non-invasive tests, imaging tests like MRI, X-rays and computed tomography to find location, size and tumor infiltration, aiding in treatment, especially for locally advanced tumors.

Invasive tests would be scraping and punch biopsy. Incision or excision biopsies are also used¹³. The excision allows the total removal and can be the definitive treatment. The incision biopsy is suitable for subcutaneous nodules and conditions in which the inclusion of healthy is required (ulcer edges). It's also indicated for large tumors, to get diagnosis or differential diagnosis¹⁴.

Surgical excision and specifically, the Mohs micrographic surgery is the gold standard treatment high risk SCC because it allows histological examination of the excised tissue and confirmation of complete tumor removal. This approach has shown the best cure rates, 97% at 5 years for the primary excision⁶.

The tumor excision should be performed with a predetermined margin of normal skin, ensuring the lesion is completely excised. In this case, the patient safety margin was 6 mm.

However, the area of normal skin removal will depend on the size, malignancy and tumor metastasis. For example, for low-risk tumors, the resection margin of 4 mm of normal skin will provide a cure rate of 95%. Nevertheless, for high risk of SCC at least a margin of 6 mm is required for the same cure rate¹⁵.

The treatment discussed in this case report was surgical resection of both the area affected by the tumor and the normal skin to provide a safety margin, based on biopsy results and the involvement of lymph vessels.

Radiotherapy is an additional treatment. Although it is contraindicated in recurrent SCC's, genetic syndromes that

predispose to skin cancer, connective tissue diseases, the younger age groups due to the risk of future skin cancer in the irradiated site, and certain areas (regions) of hands and legs, where the probability of cure is lower⁶.

CONCLUSION

SCC has a multifactorial etiology. Its incidence is higher in low-

latitude, where there is high UVR incidence. The incidence of metastasis in bone is rare and an aggravating factor in its prognosis is seeking medical help late, which is often only done when there is pain, bleeding and loss of function. Surgical excision with a margin of safety is considered the gold standard treatment and may be associated with radiotherapy.

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