

Axillary Metastasis of Cutaneous Squamous Cell Carcinoma: A Case Report

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Summary

Cutaneous squamous cell carcinoma (CSCC) is one of the most common keratinocyte carcinomas, accounting for 20% of all skin malignancies [1-3]. Although the majority of CSCC is not life-threatening, this entity is characterized by metastatic potential.

Invasive forms deserve great attention and must be managed in a comprehensive multidisciplinary setting in order to reduce the rate of local recurrence and metastasis, thus improving the prognosis. We report the case of a 63-year-old woman who was referred to us for surgical resection of axillary metastasis of cutaneous squamous cell carcinoma (CSCC) after failure of systemic treatment. It should be noted that this patient was initially operated on for a mature well-differentiated squamous cell carcinoma of the left wrist, and then, six months later, a new resection was performed due to a local relapse. During early follow-up, axillary metastasis developed. Morphological tests and imaging for a primary tumour other than the initial wrist lesion was negative. Extensive surgical excision with vascular reconstruction and lymphatic dissection was performed. The histopathological study confirmed the diagnosis of metastasis from invasive squamous cell carcinoma, which is why the patient was put on combined treatment with external beam radiotherapy and systemic therapy.

Keywords:

Invasive squamous cell carcinoma, metastasis, surgical resection, adjuvant therapy

Introduction

The axillary localization of cutaneous squamous cell carcinoma, whether primary or secondary, is not exceptional. This type of cancer is characterized by slow growth and unpredictable progression, and can sometimes simulate a metastasis of mammary origin, digestive or other localization. It is imperative to identify evidence in favor of an aggressive form using imaging techniques, but histopathological examination and immunohistochemistry play an important role in diagnostic and therapeutic orientation, assessing the extent of the lesion, depth of invasion, and lymphatic involvement.

While surgery is the main treatment for this type of cancer, controlling relapses and metastases often requires the addition of adjuvant therapy such as external beam radiation therapy and/or chemotherapy. Radiotherapy may be considered as a cure for inoperable cutaneous squamous cell carcinoma or for patients who are not candidates for curative surgery [4]. In some cases, systemic therapy may also be offered to patients who are not candidates for curative surgery or radiotherapy [4, 5].

The occurrence of relapse or metastasis of cutaneous squamous cell carcinoma is most often associated with aggressive forms of

the disease as well as late or inappropriate management of the primary tumor, as in the case of the patient in our report.

Observation

The patient is a 63-year-old woman who had a medical history that included hyperthyroidism under treatment. This patient was operated on for a well-differentiated cutaneous squamous cell carcinoma of 2 cm, located on the ulnar edge of the right wrist. A year later, she developed a local recurrence of the tumor, requiring further surgical resection. Histopathological examination revealed mature squamous cell carcinoma with extensive deep infiltration at the surgical margins. No secondary locations were detected during clinical and radiological examination.

During follow-up, the patient developed a mass in the right axillary hollow measuring 7 cm major axis. The mass was red, infected, fixed and adherent to the deep plane. An axillary MRI showed an axillary mass consistent with metastasis, accompanied by peripheral lymph nodes. A biopsy confirmed the presence of metastatic mature squamous cell carcinoma. Subsequently, the patient received six courses of chemotherapy. Post-chemotherapy imaging (CT and axillary MRI) revealed a large tumor mass infiltrating the right axillary hollow as well as multiple lymph nodes. (Figure 1)

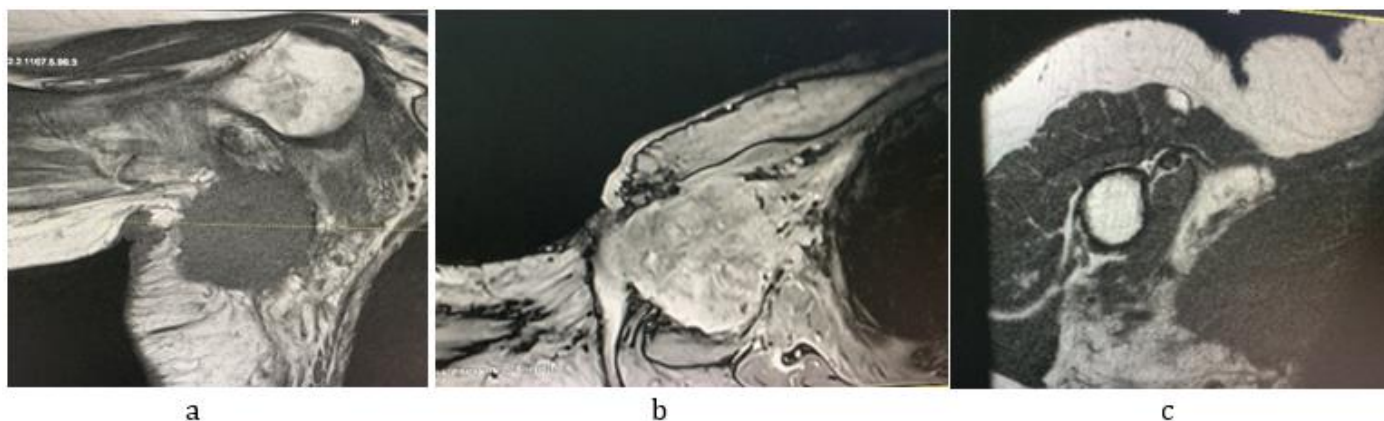


Figure 1: (a, b, and c): Imaging of a large tumor mass infiltrating the right axillary cavity and multiple lymph nodes.

Surgical exploration revealed vascular locoregional infiltration, including partial infiltration of the axillary vein and pedicle of the latissimus dorsi. In addition, the lymph nodes in the axillary hollow appeared to be massively infiltrated. In view of this

finding, it was considered justified to carry out an enlarged one-piece resection. This approach would provide both carcinological and aesthetic benefits to the patient. (Figure 2)

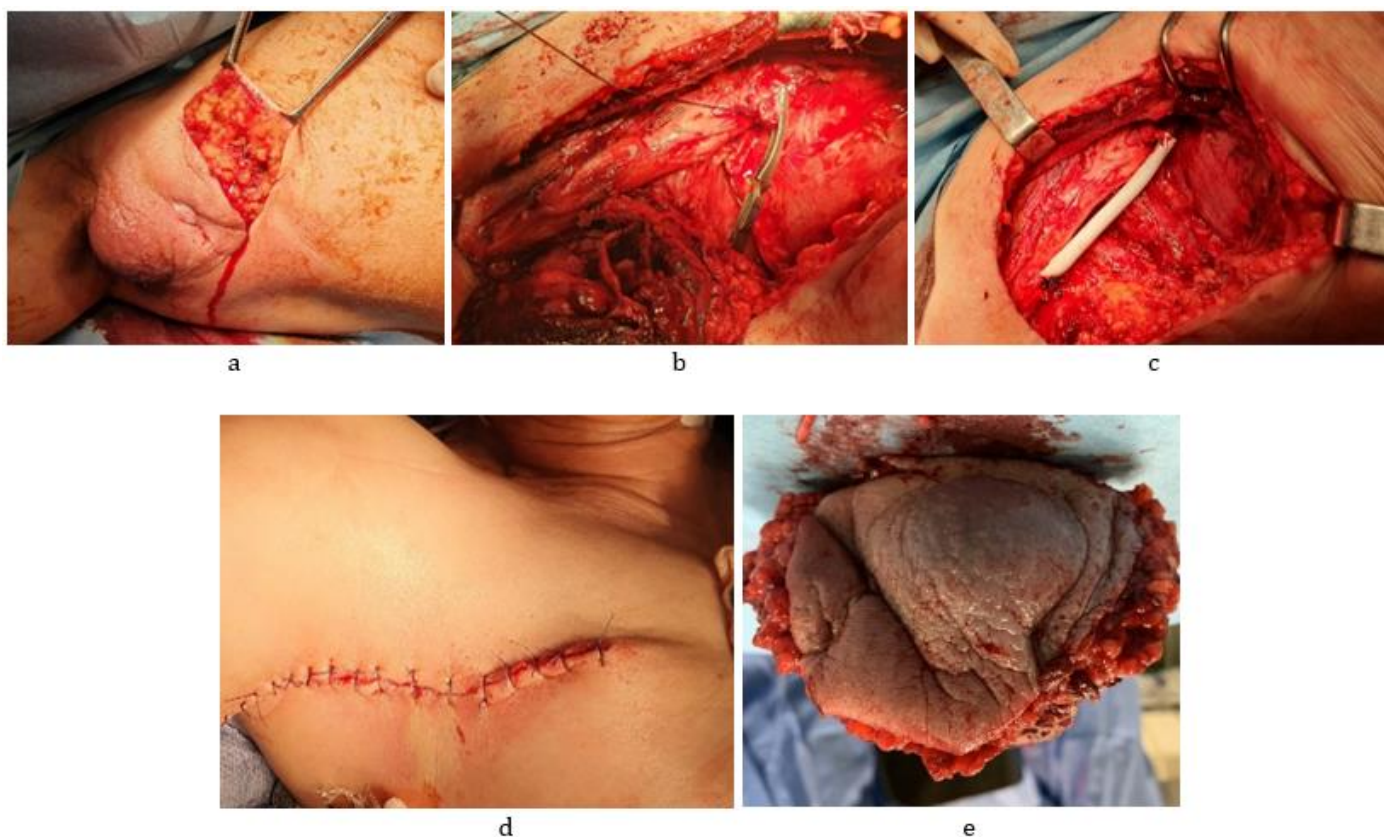


Figure 2: (a, b, and c): Surgical resection procedure and vascular reconstruction. (d): Final appearance of the axillary cavity wall after a bloc resection of the tumor. (e): And the macroscopic aspect of the resected specimen.

A monobloc excision surgery was therefore performed, partially removing the invaded portion of the axillary vein, the pedicle of the latissimus dorsi and the lymph nodes of the axillary hollow. Repair of the resected segment of the axillary vein was performed using a PTFE (polytetrafluoroethylene) prosthesis to provide temporary venous drainage of the upper limb. (Figure 2).

Microscopic analysis of samples taken after inking surgical boundaries revealed tumor formation of 8.5 cm of major axis, whitish in color. The dermis has carcinomatous proliferation

characterized by lobules and intestines composed of epidermoid cells. Union bridges between tumor cells are visible. Tumor cells have a polygonal morphology, with abundant eosinophilic cytoplasm and anisokaryotic, nucleole and mitotic vesicular nuclei. Some cells show corneal maturation and the formation of globes. This histological appearance corresponds to an axillary metastasis of a mature well-differentiated squamous cell carcinoma. However, several severity factors have been found, including depth of tumor infiltration, massive lymphatic infiltration, and vascular sheathing. (Figure 3)

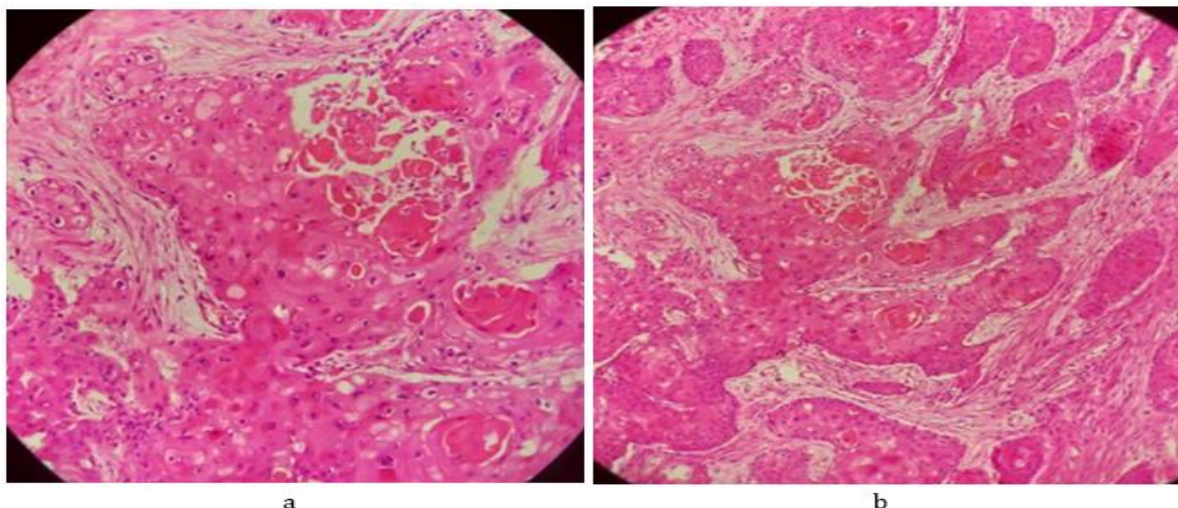


Figure 3: (a) Microscopic features Lobules and cell nuclei. (b) Nuclei are anisocaryotic, with intercellular bridges.

The postoperative follow-up was favorable, and the Doppler ultrasound of the upper limb revealed no abnormalities, with good permeability of the arteriovenous axis. Given the risk factors for recurrence, the patient was put on combined radiotherapy with immunotherapy.

Discussion

Cutaneous squamous cell carcinomas, commonly known as squamous cell carcinomas in practice, are primary cutaneous malignancies expressing squamous differentiation. Squamous cell carcinoma is the second most common skin cancer after basal cell carcinoma [1, 2, 6]. It grows mainly in skin areas exposed to the sun. Although it can appear on healthy skin, it is more common on skin with a pre-existing condition [8]. Its incidence is significantly higher in men (sex ratio close to 2) [8]. Cutaneous squamous cell carcinoma (CSCC) is an example of epithelial malignancy, often characterized by a high tumor mutagenic load [9]. The prevalence and incidence of cutaneous squamous cell carcinoma is increasing due to an aging population and sun exposure patterns [2, 10].

The main risk factor for cutaneous squamous cell carcinoma is cumulative exposure to ultraviolet light over a lifetime [8, 11]. Clinically, it usually presents as a red area with a scaly, crusty surface, indurated with central ulceration, or a vegetative or budding lesion, or a combination of both [1]. The diagnosis of cutaneous squamous cell carcinoma is mainly based on these clinical features. Biopsy or removal of all clinically suspect lesions and histological confirmation should be performed to facilitate prognostic classification and appropriate management of cutaneous squamous cell carcinoma [4]. Adequate identification of aggressive cutaneous squamous cell carcinomas may guide further investigation and management [12].

Squamous cell carcinomas can lead to local, regional, or distant metastases [6]. Lymphatic dissemination is responsible for 80% of secondary sites [2]. The risk of metastases is estimated at 2.3% at 5 years and 5.2% after follow-up of more than 5 years for squamous cell carcinomas exposed to the sun [2, 6].

Indeed, tumors larger than 2 cm have an increased risk of recurrence and metastasis compared to small tumors [2]. In addition to size, several tumor aggressiveness factors are associated with local and distant relapses, such as tumor depth

greater than 2 mm, perinervous invasion, lymphovascular invasion, and poor differentiation [7]. Local recurrence is a major risk factor for lymph node or distant lymph node metastases [13]. These factors help identify high-risk cutaneous squamous cell carcinomas, guiding management and further investigation to reduce the risk of disease recurrence and spread.

Surgery is the gold standard treatment for cutaneous squamous cell carcinomas. Resection should be performed in a way that ensures a complete resection of the tumor while preserving function and aesthetics. In some cases, it may be preferable to leave the wound open as a first-line treatment, allowing for directed healing. A plastic reconstruction can then be considered after healing. The extent of resection depends on the location, size and degree of local and lymphovascular infiltration of the tumor. Enlarged monoblock resections may be necessary in some cases, provided they are carcinogenically feasible and beneficial to patients.

Although initial surgical excision cures 95% of patients, there is a minority of cutaneous squamous cell carcinomas (CSCC) that are considered unresectable. This may be due to their locally advanced stage, the presence of unresectable regional lymph nodes, or distant metastases [14].

Prior to the introduction of immunotherapy into clinical practice, the standard treatment for advanced cutaneous squamous cell carcinoma (CSCC) was not clearly defined, and up to 60% of patients were not receiving systemic therapy. Chemotherapy mainly elicited short-term responses that did not lead to a cure and were associated with severe toxicities [1, 15-17]. The outcomes of combined radiotherapy and chemotherapy treatments were variable, and they did not show benefit over radiotherapy alone. Palliative chemotherapy and chemoradiotherapy were reserved for inoperable forms at the outset and metastatic forms with good general condition. However, the introduction of new systemic therapies, such as immunotherapies and targeted therapies, has changed the therapeutic landscape of CSCC [1, 14, 18]. Immunotherapy has shown promising results in the treatment of advanced CSCC, with sustained response rates and better overall survival in some patients. However, it is important to note that some CSCCs treated with immunotherapy develop early or late resistance [14].

Radiation therapy (RT) is an effective treatment option for localized cutaneous squamous cell carcinoma (CSCC) in patients who are not eligible for surgery. RT can also be used as adjuvant therapy in cases with factors predisposing to tumour recurrence after local excision. In addition, RT may play a role in metastatic CSCC by improving the effectiveness of concomitant immunotherapy [19].

Conclusion

Metastatic axillary localization of cutaneous squamous cell carcinoma is a rare clinical entity that requires a multidisciplinary diagnostic and therapeutic approach. Histopathological examination and immunohistochemistry are essential to make an accurate diagnosis and assess the extent of the disease. Surgery remains the standard treatment, and the extent of resection depends on tumor characteristics and local extension. However, given the high risk of recurrence and metastasis, combination therapies including surgery, systemic therapy, and radiation therapy may be required to optimize clinical outcomes and control the disease. Close monitoring and long-term follow-up are also important for an early detection of any recurrence or progression of the disease. It is essential to tailor treatment to each patient's individual characteristics and provide appropriate support throughout their care journey.

I declare that there is no financial interest or conflict of interest.

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