Advancement flap after a lumbar "extensive Bowen´s disease" resection. A case report

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Case Report

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Background
Bowen's disease (BD) is an in-situ squamous cell carcinoma (SCC) of epidermis. The incidence is high in Caucasians (1.42/1000), sun-exposed sites are commonly affected, head and neck (44%) as the most common site followed by lower extremity (29.8%), upper extremity (19.8%), and trunk (6.5%). Most commonly BD presents as a slow-growing, well-demarcated, erythematous, scaly patch or plaque. Lesions with dimensions more than 3 cm are known as "extensive Bowen's Disease"[1]. In most of the classic BD, dermoscopy may be sufficient to establish diagnostic and therapeutic options. When there is any doubt and the clinical settings resemble other skin lesions that impose different treatment from BD, histological assessment may be the next logical step. After removing the lesion with safety margins, sometimes, reconstruction procedures are needed in order to cover the skin defect [2].

Keywords: Bowen's disease, local flap.

Bowen's disease (BD) is an epithelial limited squamous cell carcinoma (SCC), frequently diagnosed in elderly people[2]. BD usually have an excellent prognosis because it is a slow-growing premalignant lesión. The time taken for full expression of this premalignant condition varies from 2 to 40 years, favoring the slow and lateral spread of the condition in an erratic manner. Cutaneous squamous cell carcinoma (CSCC) is the second most common cause of death from skin cancer after melanoma and is responsible for the majority of deaths from skin cancer in people older than 85 years[4].

The number of CSCCs has increased from 50% to 300% in the last three decades. It is estimated that the risk of developing a CSCC at some point in life is 7% to 11% in the Caucasian population (from 9% to 14% in men and from 4% to 9% in women) [4].

Case report

We present the case of a 60 year-old female, with history of hypertension of 14 years in treatment with beta-blocker, active smoker. Refering just working at home. Fitzpatrick skin type II.

She presented to dermatologist consultation with the concern of a hyperpigmented lesion at her lower back, referring 5 years of evolution, increasing gradually in size. It looked like an erythematous scaly patch, slightly elevated. A dermatoscopy was made, visualizing glomerular vessels and scale reddish lesions with hyperkeratosis. It was treated with topical immunomodulator for about a 6 weeks with partial response. Posteriorly, they started management with photodynamic therapy for 3 months without the changes expected, so they decided to make an incisional biopsy with the result:

- In situ squamous cell carcinoma

Because of poorly result with medical managment, she was sent to our consultation seeking for a total resection of the lesion with reconstructive management because of the size. An advancement flap was planned, with 6 mm margins seeking for a disease-free surgery, guided by dermatoscopy. Successful result was shown as the flap advancement and closure remained without tension, with good postsurgical outcome. She was discharged home, and returned to our consultation room with histopathological study referring there was no disease left at margins. There has been no evidence of local recurrence or metastasis in a mean follow-up of 29 months.

Discussion

BD is a preinvasive carcinoma, which may develop into invasive squamous cell carcinoma (SCC) with 20% chances of metastatic dissemination. Progression to the invasive and metastatic form occurs after a long period of time only in 3% to 5% of the cases[2]. The development of invasive SCC is due to destruction of basement membrane mediated by metalloproteinases. There are environmental and constitutional risk factors for its development. With

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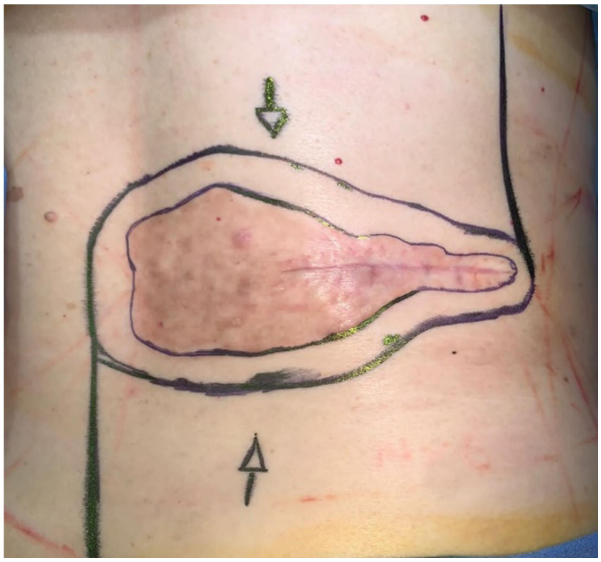

Figure 1. Previous to procedure marks, as a guide to making the reconstruction. Considering 6 mm margin. We can see the previous biopsy mark.

respect to the former, older age, male sex, fair skin (Fitzpatrick skin types I-III), immunosuppression, and a previous history of actinic keratosis (AK) are of known importance. Chronic sun exposure is the most important and well-known environmental factor associated with CSCC. Solid-organ transplant recipients, who have a human papillomavirus infection or chronic lymphocytic leukemia, have a higher risk of developing CSCC than the general population. AK is considered a premalignant lesion that may progress to an invasive CSCC, and is the most significant predictive factor of CSCC[1-6]. Tumor protein 53 (TP53) is the most commonly mutated tumor suppressor gene in patients with cSCC. HPV types 16 and 18 possess E6 and E7 proteins that prevent apoptosis and allow for continuous replication of viral DNA by regulating p53[5].

The lesion is usually located in areas which are exposed to sun such as the head, neck and legs in neutral skinned elderly people, while in black people, those areas seem to be spared. Theoretical, it can appear on any keratinizing areas of the skin [1,2]. Lesions are usually solitary, whereas multiple lesions are seen in 10%–20% of the affected individuals. Classically, BD it is described as an erythematous little scaly plaque, which enlarges over time in an erratic manner.

Although histopathology and surgical excision remain the gold standard for the diagnosis and treatment of SCC, new diagnostic imaging techniques such as dermoscopy and reflectance confocal microscopy (RCM) are increasing the diagnostic accuracy of these keratinizing neoplasms , increasing the diagnostic accuracy in terms of early recognition, better differential diagnosis, more precise selection of areas to biopsy, and noninvasive monitoring of

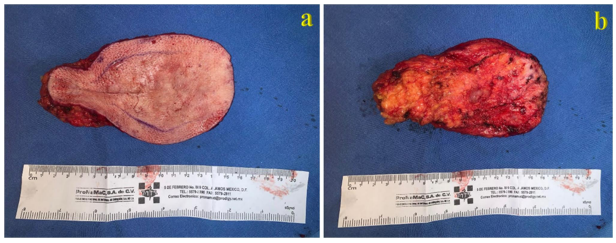

Figure 2. Surgical piece. A. Anterior view. B. Posterior view.

treatments[6]. cSCC is characterized under dermoscopy by 2 vascular patterns: small dotted vessels and glomerular vessels. Pigmented cSCC in situ can also have small brown globules and a gray-brown homogenous pigmentation on dermoscopic examination. Invasive cSCC tends to have looped/ hairpin and serpentine vessels.

Histopathology is the gold standard diagnostic modality to confirm the diagnosis. The epidermis shows hyperkeratosis and parakeratosis, marked acanthosis with elongation and thickening of rete ridges[1,6]. Being a form of in situ SCC, the whole epidermis is involved in BD and sometimes the epithelium of the pilosebaceous glands. [2] Histopathologic subtypes of cutaneous squamous cell carcinoma that are well differentiated with low metastatic potential include keratoacanthoma and verrucous carcinoma. Subtypes with poor prognosis include desmoplastic cutaneous squamous cell carcinoma, adenosquamous cutaneous squamous cell carcinoma, and cutaneous squamous cell carcinoma associated with scarring processes[5].

The treatment modality depends on factors such as the tumor size, location, thickness, number of lesions, patient's age, immune status, comorbidities, concomitant medication, intake, compliance, esthetic outcome, equipment availability, and preference of the patient along with clinician's expertise.

Nonsurgical ablative modalities are also accepted in some cases in which surgery is not feasible, contraindicated, or not preferred by the patient. These include laser ablation (CO2, erbium),

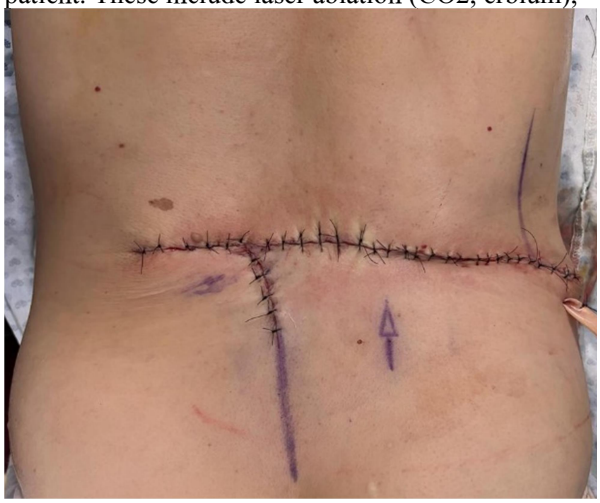

Figure 3. Final result. Showing flap advancement tension free.

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electrocoagulation, and cryosurgery. However, given the lack of histological margin control with these approaches, the recurrence rate of SCC is higher[6]

Some literature mentions that surgery is the cornerstone of the management of CSCC[4]. Conventional excision must ensure complete removal and therefore include a margin of clinically normal-appearing skin around the tumor and surrounding erythema. Clinical margins can be assessed prior to surgery by imaging techniques such as dermoscopy[3]. The BD is excised with a minimum of 4 mm margin in well-defined tumors of <2 cm in diameter and at least 6 mm margin for larger lesión or les-differentiated tumors or lesions in high-risk locations. Recurrence rate varies from 2.8% to 19.4% [1,6].

Although the majority of cSCCs are successfully eradicated by surgical excision, a subset of cSCC possesses features associated with a higher likelihood of recurrence, metastasis, and death[5].

Conclusion

There is a well stablished statment that prognosis is usually very good when correct treatment is applied with minimal chances of recurrence. The development of invasive carcinomas is more common among elderly people and immunocompromised individuals. The clinical signs suggestive of malignant transformation are ulceration, bleeding, and nodule formation. Even so, after the diagnosis has been established, choosing the right treatment may be a challenge due to poor clinical evidence regarding surgery, topical therapy and other treatments, limited to small retrospective studies and case reports.

Conflicts of interests

There was no conflict of interest during the study, and it was not funded by any organization.

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