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SQUAMOUS CELL CARCINOMA OF THE TEMPORAL REGION MANAGED WITH WIDE LOCAL EXCISION AND FREE LATERAL THIGH FLAP COVER

Plastic Surgery

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ABSTRACT

Squamous cell carcinoma is the second most common form of cutaneous malignancy and is usually due to exposure of ultraviolet radiation (UV-B), inflammation (from trauma or burns), chemical exposure and immunosuppression. Squamous cell carcinoma is a malignant proliferation of the epidermal keratinocyte. It is most common in elderly Caucasian population. Lesions occur most commonly on the face, neck, ears, hands and arms but metastases are rare. Here, we present a case of an elderly gentleman who came with an ulceroproliferative lesion of the left temporal scalp for 6 months. Biopsy proved to be a well differentiated squamous cell carcinoma. Wide local excision was done and the defect was closed using a free thin lateral thigh flap.

KEYWORDS

Cutaneous malignancy, Squamous cell carcinoma, Surgical excision, Flap cover

INTRODUCTION

Squamous cell carcinoma (SCC), also known as non-melanoma skin cancer, is the second most common form of cutaneous malignancy after basal cell carcinoma. The incidence of this cancer has increased up to 200% in the past three decades in the United States. The incidence varies geographically due to increased exposure to ultraviolet radiation [1]. The incidence is higher in light-skinned people with extensive sun exposure. SCC's are relatively rare in people with African or Asian descent. The most predisposing factor were the scarring processes [2]. SCC is twice as frequent in men compared to women, especially in the elderly. Individuals with a first-degree relative with SCC may have an increased risk for this malignancy as they share similar cutaneous phenotypes, environmental and genetic factors [3]. The incidence of cutaneous SCC increases with the duration and degree of immunosuppression and is higher in equatorial climates. The direct effects of immunosuppressive agents and UV radiation may augment DNA damage as the immune system cannot eradicate percutaneous skin damages, especially in those with HIV, organ transplantation, and long term steroid usage [4]. Arsenic (from contaminated water), radon, and chemical exposure from cigarette smoking have been associated with an increase the risk of squamous cell carcinoma [5]. A subset of patients present with high-risk squamous cell carcinoma, which include sizes more than 2 cm, invasion greater than 4 mm, recurrent lesions, and metastasis to regional lymph nodes [6]. All kind of cutaneous cancers are to be diagnosed by cytological and histological tests, and surgical excision is one of the mainstays of treatment giving a better prognoses.

Case Report

A 60 year old gentleman had come to our department with an ulcer in the left temporal region since 6 months. The patient was apparently normal 6 months ago when he noticed a small ulcer which started spontaneously and progressed to the present size. He gives a history of bleeding on touch. There was no history of pain, pus discharge, fever, cough, loss of weight or loss of appetite with normal bowel and bladder habits. He is a known diabetic for 15 years on oral hypoglycaemic agents. On examination, an ulceroproliferative growth was present on the right temporal region measuring 4 x 4 cm with well defined margins and an everted edge. (Fig. 1)

Fig. 1 – Pre-operative picture

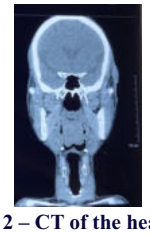

Fig. 2 – CT of the head & neck

The base was the temporalis muscle and the floor was unhealthy tissue with slough. The lesion was not friable nor bleeds on touch. There was no regional lymphadenopathy. Other systemic examination was normal. CT scan of the head and neck showed an extra-cranial soft tissue dense irregular ulcerative lesion noted in the left temporal region in the cutaneous plane with a maximal thickness of 12mm with underlying fat plane showing minimal fat stranding with a few subcentimetre level II neck nodes suggestive of malignancy. (Fig. 2) Edge wedge biopsy showed features of well differentiated infiltrating squamous cell carcinoma. Under general anaesthesia, wide local excision of the lesion was done by the surgical oncologist and the defect was reconstructed with a free lateral thigh fasciocutaneous flap cover. (Fig. 3 & 4) The facial artery (2mm) was used as an end to side anastomosis and two venous anastomoses were done, one to the anterior facial vein and the retromandibular vein (4mm) with a pedicle length of 13cm. Flap inset was given with 3-0 polyamide sutures. Donor area was closed primarily with 2-0 polyamide sutures. Post operative was uneventful and the flap settled well. Sutures were removed on the 10th post-operative day. (Fig. 5 & 6) Histopathology also revealed a grade 1 (well differentiated) squamous cell carcinoma with all resected margins free of tumour (pT3pN0).

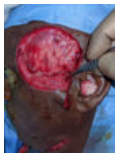

Fig. 3 – Post excisional defect

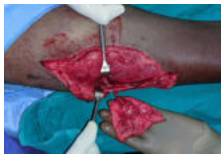

Fig. 4 – Lateral thigh flap with pedicle

Fig. 5 – Immediate post-operative picture

Fig. 6 – 1 month post-operative photograph

DISCUSSION

Squamous cell carcinoma is a malignant epithelial tumor which originates in epidermis, squamous mucosa or areas of squamous metaplasia. SCC is more aggressive, invading in to deeper skin lamella with metastases to other organs and structures [7] Early recognition and treatment provides a good prognosis [8]. Hence, any suspicious lesion has to be treated depending on diagnosis, lesion size, morphology, location, and patient compliance [1]. Biopsy and histopathologic analysis aid in the diagnosis of suspected lesions. Computed tomographic scanning imaging and lymph node biopsies help to rule out metastatic diseases [9]. Surgical excision of the ulceroproliferative growth is the best modality of treatment to reduce mortality. It is important to note that excision with three dimensional clearance is helpful to prevent further complications. This is accomplished under pathologic evaluations of specimens obtained post-operatively or as frozen section intra-operatively. Reconstruction is generally done using split thickness skin graft or by using a flap [9]. Skin grafting is usually performed when defects are large and unsuitable for primary closure or a local flap [10]. In such cases, the defects can be resurfaced by free flaps using microvascular anastomosis.

CONCLUSION

Most patients with SCC are elderly Caucasians with high risk factors such as ultraviolet radiation exposure, positive family history, chronic immunosuppression, toxic chemicals and chronic inflammation. The lesions are often found in sun exposed areas of the skin, which include the head, neck, upper and lower extremities. Surgical resection remains the treatment of choice and Mohs Micrographic Surgery is especially useful in high-risk patients or in functional and cosmetic areas. Aggressive tumors metastasizing to the neck requires consideration of multimodal therapy with surgery and radiation. Chemotherapy is useful in cases of extracapsular extension or in residual neck disease. Close surveillance, especially within the first two years after treatment, is recommended. Continued research is necessary to assess the utility of non-surgical modalities of treatment as well as the use of sentinel lymph node sampling.

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