Occipital region squamous cell carcinoma: A case report and review of literature

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ABSTRACT

Squamous cell carcinoma (SCC) is the second most common form of aggressive skin cancer and is due to exposure of ultraviolet radiation (B), immunosuppression, inflammation (from trauma or burns), and chemicals. In contrast, SCC is uncommon in darker skin individuals, especially those living in Asia. Here, we report the case of a 67-year-old male who presented to us with a complaint of the non-healing lesion over the occipital region for 2 years. A computed tomography head was done and a possibility of distal metastasis was excluded. The patient underwent wide local excision with scalp rotational flap followed by radiotherapy. Although the incidence of SCC is lower in the Indian people, it is important to consider the diagnosis for a suspicious lesion. The correct management of SCC is wide local excision along with flap rotation.

Key words: *Carcinoma, Occipital region, Scalp, Skin cancer, Squamous cell carcinoma*

Squamous cell carcinoma (SCC) is the second most common form of skin cancer following basal cell carcinoma. The incidence of the disease has increased up to 200% in the past three decades in the US. The incidence varies geographically due to increased exposure to ultraviolet (UV) radiation [1]. The highest incidence occurs in light-skinned people with extensive sun exposure. SCC is relatively rare in Asians. However, SCC in Asian people carries a higher mortality rate due to delayed diagnosis, because these tumors are more likely to occur in sun-protected areas including the scalp. The most predisposing conditions were scarring processes [2]. SCC is twice as frequent in men compared to women over the age of 50. The majority of SCC in those of Asian arises from pre-existing inflammatory skin conditions or burn injury [3].

Direct effects of immunosuppressive agents and UV radiation may augment DNA damage because the immune system cannot eradicate percutaneous skin changes, especially in those with HIV, organ transplantation, and long-term steroid use [4]. Arsenic (from contaminated water), radon, and chemical exposure from cigarette smoking may also increase the risk of cutaneous SCC, but more studies are necessary to associate the cause [5]. A subset of patients present with high-risk SCC, which include sizes >2 cm, invasion >4 mm, recurrent lesions, and metastasis to regional lymph nodes [6]. As there is a high frequency of SCC mortality in Blacks, prevention and early detection should benefit the patient [7].

CASE REPORT

A 67-year-old male resident of Madhya Pradesh, India, presented with a chronic ulcer over the occipital region of the scalp for the past 2 years. No medical and surgical history. The patient was a non-smoker and had normal bowel and bladder habits. There was no chemical exposure history.

On examination, the patient was conscious, oriented, and responsive to time place, and person. The patient had a normal gait, no icterus, pallor, or cyanosis. The patient was vitally stable. Initially, the swelling was small in size of around 0.5 cm × 0.55 cm that progressively enlarged and commenced to ulcerate. On local examination, the ulcer was of size 5 cm × 6 cm, with everted margins present over the occipital region and central ulceration (Fig. 1). No obvious bone erosion was present and ulcer moves over the bone.

A head computed tomography (CT) scan with contrast showed an outsized superficial mass within the occipital region of size 6 cm × 6 cm with no bone erosion. HIV/HBsAg/HCV tests were negative.

An incisional biopsy was done. Surgical excision was planned and a wide local excision through with local scalp along with flap rotation was done (Fig. 1). Gross examination of the specimen showed exophytic ulceroproliferative growth measuring 5.5 cm × 55 cm × 1.8 cm with everted edges. The tumor size was 5.5 cm × 5.0 cm × 0.8 cm and tumor depth was 3 mm. The lesion was 1.2 cm far away from the anterior skin resected margin; 1.5 cm far away from the right lateral skin resected margin; 2 cm far away from the posterior skin resected margin; 2 cm far away from the medial margin; and 0.1 cm from the deep resected margin.

The microscopic examination of the sections showed stratified squamous epithelium with focal ulceration with an invasive tumor. The underlying disposed of in the nest and sheets

of atypical squamous cells. These atypical cells show moderate nuclear pleomorphism, high N:C ratio, hyperchromatic nuclei, and moderate eosinophilic cytoplasm. There were intracellular keratinization and keratin pearl formation. The adjacent stroma shows lymphomononuclear inflammatory cell infiltrates comprising lymphocytes and plasma cells. Lesion reaching up based on not involving periosteum (Fig. 2).

The histopathology reports suggested the lesion as moderately differentiated epithelial cell carcinoma (Grade 2). The pathological stage was pT3NxMx. Postoperatively, the patient recovered without complications. The patient was advised to undergo irradiation.

DISCUSSION

SCC is the second commonest carcinoma after basal cell carcinoma [8]. Epithelial cell carcinoma is a malignant proliferation of the epidermal keratinocyte. Primary lesions most typically occur on the face, neck, ears, hands, and arms, but metastases are uncommon. The incidence varies geographically because of increased exposure to UV radiation [1]. Persons who live near the equator tend to present at a younger age compared with people who live more distant from the equator. The very best incidence occurs in light-skinned people older than 40 years with extensive sun exposure. SCC is comparatively rare in people of African or Asian descent. Individuals who have first-degree relative have an increased risk because they have similar cutaneous phenotypes, environmental, and genetic factors [9].

Figure 1: (1) Pre-operative swelling in occipital region; (2) wide local excision; (3) flap elevation; (4) post-operative flap covered the defect

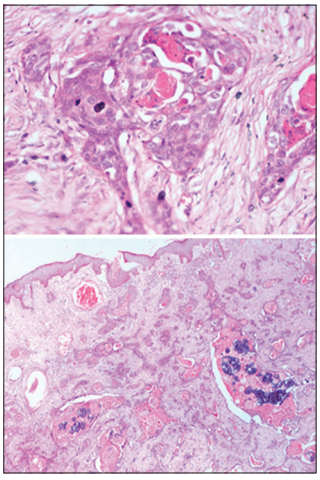

Figure 2: Microscopic examination of the specimen showed infiltrative dysplastic squamous cells surrounded by lymphocytic cells

The incidence of cutaneous SCC increases with the duration and degree of immunosuppression and in tropical climates. The effects of immunosuppressive agents and UV radiation may cause DNA damage because the system cannot eradicate percutaneous skin changes, especially in persons with HIV, persons who have undergone surgery, and persons on long-term corticosteroid therapy [4]. Arsenic (from contaminated water), radon, and chemical exposure from cigarette smoking also may increase the chance of cutaneous SCC, but more studies are necessary to create a definitive association [7]. A subset of patients presents with high-risk SCC, which has lesions >2 cm in size, lesions with an invasion depth >4 mm, recurrent lesions, and metastasis to regional lymph nodes [6,10]. Because SCC features a higher rate within the Black population, prevention and early detection are critical [7].

Early recognition and treatment provide a positive prognosis. The tactic depends on the diagnosis, lesion size, morphology, location, and patient compliance [1]. Biopsy and histopathological analysis aid within the diagnosis of suspected lesions. In addition, CT imaging and lymph gland biopsies help to rule out metastatic diseases. Excision of the ulcerative, non-healing lesion was the simplest modality of treatment for this patient to scale back mortality. As per the NCCN guidelines for epithelial cell carcinoma standard excision of 4–6 mm, the clinical margin is taken into account. It is important to notice that excision to clear margins is useful to forestall further complications. This can be accomplished under pathologic evaluations of specimens obtained postoperatively. Therefore, this facilitates the importance for physicians to understand the SCC and other ulcers to make a differential diagnosis in different groups of people.

CONCLUSION

It is a rare case to have an Indian patient to present with SCC of the occipital region. The most effective treatment is wide local excision, with local flap cover. Split skin grafting cannot be done in cases like this as the raw area is deep and the periosteum is excised so uptake of graft is poor, skin grafting is better for the donor site. On the other hand, flap acceptance is better with good cosmetic outcomes and low radiotherapy complications.

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