

Squamous Cell Carcinoma of Parieto-Occipital Region of the Scalp: A Case Report and Review of Literature

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Abstract: Introduction: Squamous cell carcinoma usually follows exposure to ultraviolet radiation (UV-B), immunosuppression, inflammation (from trauma or burns), and chemicals. A common end stage complication of a broad array of inflammatory skin conditions, SCC occasionally occurs in scars following inflammatory or degenerative processes. Case Study: Here, the case of an 84-year-old male is reported who presented with a complaint of the non-healing lesion over the parieto-occipital region for 1 month. A plain high resolution CT study of the head and evidence of a large soft tissue density lesion was obtained without any evidence of metastasis or intracranial extensions or erosions. Wide superficial local excision revealed a well-differentiated squamous cell carcinoma without any metastasis. Histopathologic evaluation of the scalp mass, revealed it to be at pT3 as per TNM staging, extending from epidermis to subcutis (Clark level V). The patient underwent wide local excision with split skin grafting. Discussion: The incidence of SCC is common in older, caucasian males; while being in people with Asian or African descent. This makes early recognition, diagnosis, treatment and reporting of the lesions essential.

Keywords: Squamous cell carcinoma, Parieto-Occipital region, Scalp, Excisional biopsy, Split-skin grafting

1. Introduction

Squamous cell carcinoma is the second most common form of aggressive skin cancer, the most common causes for which are exposure of ultraviolet radiation (UV-B), immunosuppression, inflammation (from trauma or burns), and chemicals. An end stage complication of a broad array of inflammatory skin conditions, SCC occasionally occurs in scars following inflammatory or degenerative processes. It is most common in older, white populations in Europe, United States, and Australia, while being a rare occurrence in people with Asian or African descent. [1]

SCC in Indian patients, as a complication of chronic cutaneous lupus erythematosus (CCLE) in Indian patients is rarely reported. [2]

Cutaneous cancer is a rare entity accounting for less than 1% of all diagnosed cancers in India. However, squamous cell carcinoma is the commonest skin cancer in India, often affecting the scalp. [3]

The various risk factors that are generally accepted to portend the more aggressive behavior of cutaneous squamous cell carcinoma include tumor size, tumor depth, histologic subtype, location on the lip or ear, tumor arising in scar, recurrent tumor, and tumor demonstrating perineural invasion. [4]

2. Case Study

An 84 year old man from Vadodara, Gujarat, India came to the hospital with complaints of multiple swellings in the scalp for 15 years. He had most recently noticed a swelling in the scalp for 1 month. He stated that the lesion was initially a small pimple that progressively enlarged, did not heal, and started to ulcerate.

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. Physical examination found a 5 cm × 5 cm × 1 cm raised, lobulated, dome shaped appearance overlying the normal skin surface with cauliflower like growth and central ulceration, as shown in figure 1.



Figure 1

Routine investigations of blood were as such that the hemoglobin was 10.5 g/dL, hematocrit was 32.5 %, RBC count was $3.61 \times 10^{12}/L$, and the creatinine levels were 2.10mg/dL. Routine investigations for urine and stool proved to be non-contributory to the following case. Patient was non-reactive for HIV I & II, tested negative for Anti-HCV and HBsAg. The chest X Ray was normal.

In the X Ray of the skull, lesions likely arising from soft tissue of the scalp were seen in the Parieto-occipital and Parietal region (Figure 2). No calcification seen with this lesion; the outer table of skull bone is normal. No discontinuity or lytic area were seen.



Figure 2

In USG of the scalp evidence of soft tissue lesion measuring at least 5.8 x 5.8 x 5 cm was seen in the scalp in the parieto-occipital region. It appeared isoechoic in texture with moderate vascularity and small cystic changes seen within the lesion (Figure3). Bony outline of the skull was not seen as affected.

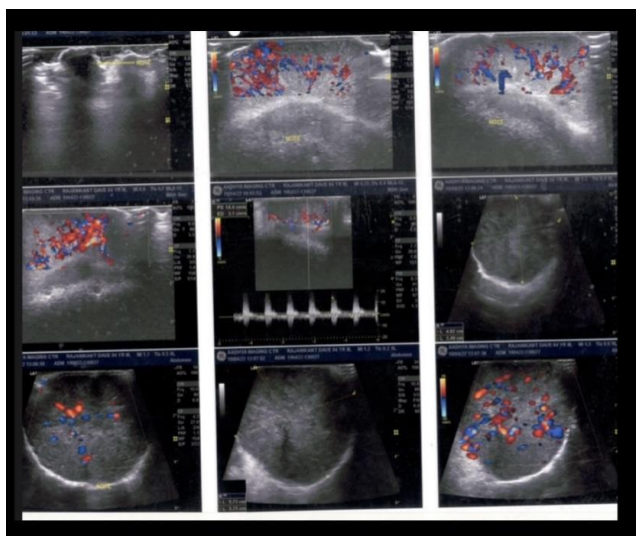


Figure 3

A plain high resolution CT study of the head was performed without IV contrast and evidence of large soft tissue density lesion measuring 5.4 x 5.4 x 3.6 cm with smooth margins was seen in the scalp in high parietal region with few fluid density areas within (Figure 4). It about the underlying parietal bones, however, there was no evidence of indentation, erosions or intracranial extensions. Further histopathological correlation was required.

Another soft tissue lesion was seen in the frontal scalp in the right paramedian location measuring 1.0 x 0.7 cm.

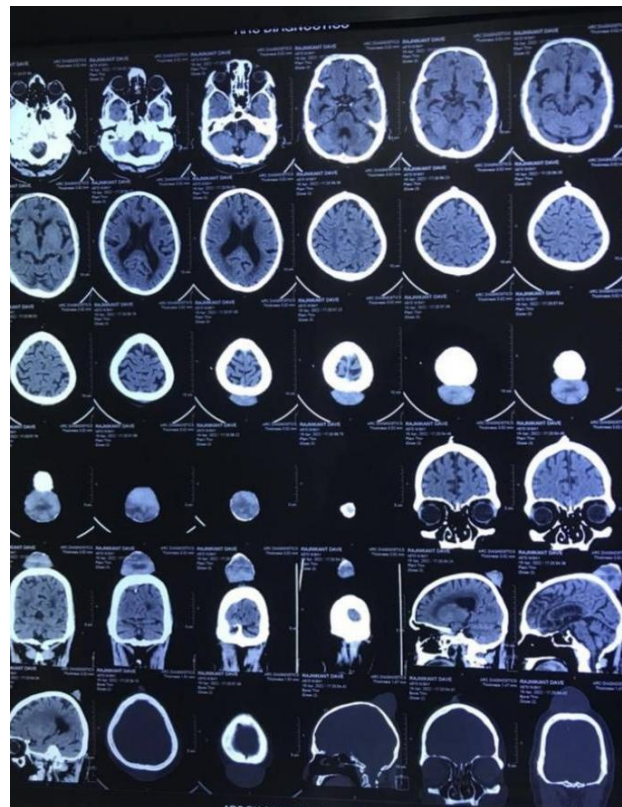


Figure 4

An excisional biopsy of the ulcerating scalp mass was scheduled. Histopathologic evaluation of the scalp mass, which grossly measured 6 x5.5 x1.4 cm (pT3 as per TNM staging) with a depth of 1.4 cm; extending from epidermis to subcutis (Clark level V) demonstrated a well differentiated squamous cell carcinoma. Lymphovascular and perineural invasion were absent.

Post-operatively the patient recovered without complications, with a clean dried dressing over the opened wound (Figure 5).

Figure 6 shows the patient's recovery, one month post-operatively without any complications.



Figure 5



Figure 6

3. Discussion

Squamous cell carcinoma, is the second most common form of skin cancer. It is caused by the cumulative exposure of skin to UV light. The precursor lesions of this condition are called actinic keratosis, which exhibits tumor progression and has the potential to metastasize in the body. Diagnosis of suspected lesions is done with the help of biopsy and histopathological analysis; while CT imaging and lymph node biopsies aid in ruling out of metastatic diseases. [1]

Squamous cell carcinoma most commonly appears after the age of 50 in areas of past sun exposure, and typically occurs in males with light skin and light eyes who have a history of UV solar radiation exposure. However, anyone with a history of significant UV exposure, whether from past medical treatment or the sun, is at an increased risk. Squamous cell carcinoma is also very prevalent in patients that are immunosuppressed and can develop into aggressive subtypes in these patients. [5]

High-risk patients are commonly described as those that have lesions that are often diagnosed late, > 2 cm in size, local metastases, and > 4 mm depth. [6]

The preferred mode of treatment is surgical excision with skin grafting or flap. Radiation therapy is used in cases of squamous cell carcinoma in older patients or those who will not tolerate surgery, or when it has not been possible to obtain clear margins surgically. Adjuvant radiotherapy is common after surgical treatment in very high tumors. Patients with cutaneous squamous cell carcinoma should be examined regularly and remember to use measures to protect from UV damage. [5]

It is therefore, of great significance that a diagnosis is made early and that excision of the ulcerative, non-healing lesion to forestall any further complications. [6]

4. Conclusion

Squamous Cell Carcinoma is rare in Indian patients but fatal if left untreated. However, there is limited data that documents the incidence and mortality in black males and those of Asian heritage; which makes it incredibly important to diagnose and excise the lesion at an early stage. The most effective treatment is wide local excision, with local flap cover in cases where the raw area is deep and the periosteum is excised so the uptake of graft is poor. In this particular case, there is no periosteum involvement and so split skin grafting has been used. [7]

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