

About a case of squamous cell carcinoma of the scalp.

Management and aesthetic results



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We present a case of squamous cell carcinoma of the scalp, treated with local excision and flap reconstruction. We discuss the treatment modalities of this pathology with particular attention to the role of surgery and adjuvant radiotherapy. The Authors suggest the systematic use of subgaleal drainage to avoid the hematoma and/or seroma occurrence.

KEY WORDS: Local flap, Scalp, Skin cancer, Squamous cell carcinoma, Surgery

Introduction

Scalp reconstruction after local excision of scalp tumors is challenging. Primary closure of the ensuing defect is difficult because of the shape of the scalp and the thickness of the subcutaneous tissues. Because of the limited elasticity of scalp tissues, defects less than 3-4 cm are usually amenable to direct closure^{1,2}. Local flaps are a major method of reconstruction of scalp defects, which guarantees good results with a 4% incidence of significant complications³. The major determinant of success is to use large flaps with wide bases⁴.

The Authors report a case of scalp reconstruction with a local flap after excision of a squamous cell carcinoma

(SCC) and discuss the technical details which are useful to obtain optimal result with particular attention to the application of subgaleal drainage.

Case report

A 82-year-old man was admitted because of a 4.5 cm wide skin neoplasm arising in the left parietal region of the head. Past medical history showed the presence of renal chronic failure and hypertension. When he was 69 years old, the patient was submitted to left colon resection for adenocarcinoma and 1 year after he underwent local excision of a rectal adenocarcinoma.

Local excision of the neoplasm under local anesthesia was performed. The ensuing 25 cm² circular defect was covered with a rotation flap, obtained with a wide subgaleal undermining. The vascular supply of the region was carefully preserved. Two subgaleal laminar drainages were inserted and skin closure was performed with particular attention at avoiding lesions of suspected ischemic areas (Fig. 1). The postoperative course was uneventful. Redundant skin ("dog ears") resulting from flap rotation disappeared two weeks after operation.

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Fig. 1: Skin closure performed with a large rotation flap with wide base and insertion of two subgaleal laminar drainages, immediate postoperative result.



Fig. 2: Aesthetic result 6-months postoperatively after external beam radiation therapy.

Histological examination of the specimen showed the presence of a SCC with involvement of the subcutaneous fat and perineural invasion (pT2, pNx, pMx; stage II). A tomographic scan of the head and neck showed no lymph node involvement.

The patient was submitted to adjuvant radiotherapy with local irradiation of 40 Gy subdivide in 16 fractions of 250 cGy daily.

Esthetic result was satisfactory at 6-month follow-up visit (Fig. 2).

Discussion

Most SCCs are readily treated with an expectation of cure in more than 90% of patients. A subset of SCCs is considered high risk, because it has been associated with higher rates of recurrence, metastasis, and death in case series data. Factors associated with high risk tumors are: (1) tumor location (i.e., lips, ears, anogenital, within a scar or chronic wound), (2) tumor size greater than 2 cm (or 1.5 cm on ear or lip), (3), invasion to subcutaneous fat (or deeper), (4) poorly differentiated tumor cells, (5) recurrent tumor, and (6) perineural involvement^{5,6}.

Additionally, a prospective study of 210 patients with a diverse range of SCCs showed that tumor-related factors were associated with adverse disease-specific survival using univariate analyses⁷. Specifically, these factors were (1) local recurrence at presentation, (2) invasion beyond subcutaneous tissue, (3) depth in general, (4) perineural invasion, and (5) size greater than or equal to 4 cm. Our patient belongs to this subset of high risk SCCs. In particular, the SCC showed microscopic perineural invasion. The patient was submitted to postoperative radiotherapy. The role of adjuvant radiotherapy in the treatment of SCC is still questionable. One systematic review of available outcome data suggests that adjuvant radiation be considered in patients with uncertain or positive surgical margins or advanced nerve involvement⁸. The use of this modality in the setting of microscopic PNI is not as clear cut. Defining the subset of patients who benefit from adjuvant radiotherapy awaits further study.

Local flaps are a major method of reconstruction of scalp defects. The major determinants of success in this situation are to use large flaps with wide bases, completely cover the compromised portions of the wound, and avoid suture lines in critical areas^{1,4}. Complications are rare if surgery is performed according to the above technical rules. In particular, flap necrosis, due to excessive tension, can be prevented with galeotomies or use of stress relaxation and creep⁹. Moreover we recommend to drain the subgaleal space routinely in order to avoid collections that might compromise the flap vitality.

Redundant skin ("dog ears") resulting from flap rotation are often present but generally tend to spontaneous resolution over the time¹. In case of persistence they may be excised^{10,11}.

In conclusion, scalp flaps guarantee satisfactory results in patients with SCC. Postoperative radiotherapy may be safely performed. Meticulous surgical technique and the routine drainage of the wound are recommended to prevent complications.

Riassunto

Gli autori presentano un caso di carcinoma a cellule squamose del cuoio capelluto trattato con escissione locale e ricostruzione con flap.

Si descrivono le modalità di trattamento della lesione con particolare riguardo al ruolo della chirurgia e della radioterapia adiuvante.

Gli autori suggeriscono l'utilizzo sistematico del drenaggio subgaleale per evitare la comparsa di ematomi e/o sieromi.

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