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Management of Squamous Cell Carcinoma of the Scalp: A Retrospective Study of 20 Cases at the Avicenne Military Hospital of Marrakesh

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Abstract
Scalp squamous cell carcinoma is a malignant tumor that usually appears in photo-exposed areas. This is a retrospective study of 20 cases treated between 2015 and 2020 at Avicenna Military Hospital of Marrakech, Morocco. Data analyzed include: epidemiological data, clinical data, therapeutic data, aesthetic follow-up data, and oncological follow-up data. Reconstructions after excision were adapted to each case. The results show good management with no recurrence of tumors and good aesthetic satisfaction.

Keywords: squamous cell carcinoma, scalp, reconstruction, plastic surgery, cutaneous oncology.

1. Introduction

Squamous cell carcinoma represents about 20% of cutaneous cancers. Its incidence is increasingly due to population aging, alongside increasing sun exposure. The scalp is among common sites due to chronic exposure to ultraviolet radiation. Treatment relies on a wide surgical excision followed by reconstructions adapted to the anatomical and functional peculiarities of this area.
The objective of this work is to analyze the epidemiological and clinical features of the patients with scalp SCC, assess the treatment outcomes, and discuss the peculiarities of scalp reconstruction.

2. Methodology

Study Population

The retrospective study was conducted on 20 patients treated for SCC of the scalp from January 2015 to January 2020.

- Inclusion criteria: SCC of the scalp proven by histological examination.
- Exclusion criteria: other types of cutaneous tumor and incomplete medical records.

Data Collection

Data were extracted from medical records:

1. Sociodemographic data: age, sex, profession.

2. Clinical data: location, size, duration.
3. Paraclinical data: imaging, histopathology.
4. Treatments: surgery, reconstruction, adjuvants.
5. Postoperative follow-up: complications, recurrence, and patient's satisfaction.

Therapeutic Approaches

- Surgical excision: done under local or general anesthesia, depending on the size and depth of the lesion.
- Reconstruction: healing by second intention, skin graft, or local flap, according to the size of the defect.
- Adjuvant therapies: radiotherapy and chemotherapy in cases of advanced lesions.

3- Results

Epidemiological Characteristics

- Mean age: 68.3 years of age (extremes: 35-85 years).
- Sex: In 85% it occurred in males, giving a sex ratio of 5.6.
- Occupation: 90% were retired military personnel.
- Risk factors: Prolonged sun exposure (100%), tobacco use (70%), diabetes (50%), and hypertension (40%). (Table I)

Clinical Characteristics

- Lesion type: ulcerative-exophytic in 60% of cases.(Figure 1)
- Location: parietal scalp (40%), followed by the vertex (30%).
- Mean size: 2.6 cm (range: 1–8.5 cm).
- Related symptoms: cosmetic concern (90%), bleeding (65%), local infections (45%).

Therapeutic Approaches

1. Surgical excision: performed with 1–1.8 cm safety margins.

- Clear margins were obtained in 80% of cases; 20% needed re-excision.
- One case involved outer table bone infiltration.

2. Reconstruction: (Table II)

- Second intention (50%).
- Skin grafting (25%).
- Sutured directly for small deficits (15%).
- Local flaps (10%).

3. Adjuvant treatments:

- Radiotherapy: performed in 30% of patients (multiple lesions or bone invasion).
- Chemotherapy was administered in one case of distant metastasis.

Results and Follow-up

- Recurrence: no tumor recurrence at five years of follow-up.
- Complications: two local infections were resolved under antibiotic therapy.
- Aesthetic and functional satisfaction: good in 85% of cases.

4. Discussion

Clinical Features and Surgical Difficulties

The scalp is a part of the body with a particular anatomic profile: inelastic and well-vascularized skin, along with major aesthetic impairment, makes the management of SCC of the scalp particularly demanding. [1;2]

Surgical Excision Effectiveness

Thus, wide surgical excision remains the cornerstone of SCC management. Clear margins were obtained in 80% of cases in our series, whereas the literature reports a rate of 15–25% .. [3;4]

Reconstruction Techniques

Directed healing (50%) and skin grafting (25%) were the two major modalities adopted to manage the tissue loss and resulted in acceptable cosmetic outcomes. Utilization of advanced reconstruction modalities, including microvascular flaps, may be indicated in selected complicated cases .. [5;6;7;8]

Adjuvant Treatments and Follow-Up

Radiotherapy was indicated in 30% of patients, mostly in cases with multiple lesions or bony involvement. This adjuvant treatment modality has been supported by literature that demonstrates a lower rate of recurrence if radiotherapy is combined with surgery .. [9;10;11]

Prevention and Future Perspectives

Prolonged sun exposure remains the chief risk factor. Public awareness of sun protection and regular dermatological checkups may facilitate early diagnosis and go a long way in reducing incidence. Development of newer reconstructive modalities may yield better results in complicated cases.. [12;13;14]

5. Conclusion

This case series summarizes the challenges and successes of the management of scalp squamous cell carcinoma. A multidisciplinary approach involving wide excision, custom-tailored reconstructive surgery, and long-term follow-up provides acceptable oncologic and cosmetic outcomes. Future improvement is awaited with increased prevention and newer forms of reconstruction.

6 References :

1. Cassarino DS, Derienzo DP, Barr RJ. Cutaneous squamous cell carcinoma: a comprehensive clinicopathologic classification. Part one. J CutanPathol 2006;33(3):191-206.
2. Non melanoma skin cancer: guidelines for treatment and management in Australia. Clinical practice guidelines. In; 2002; Canberra: National Health Medical Research Council; 2002.
3. Smith KJ, Skelton HG, 3rd, Morgan AM, Barrett TL, Lupton GP. Spindle cell neoplasms coexpressing cytokeratin and vimentin. J CutanPathol 1992;19(4):286-93
4. Nagore E, Sanchez-Motilla JM, Perez-Valles A, Martinez-Lahuerta C, Alegre V, Aliaga A.
5. Pseudovascular squamous cell carcinoma of the skin. Clin Exp Dermatol 2000;25(3):206-8.
6. STANLEY J, ALAN L, KENNETH G, THOMAS O. Basal cell and squamous cell skin cancers. NCCN clinical practice Guidelines in oncology(NCCN GUIDELINES).Version 2.2012. NCCN.org.
7. DESCAMPS V.Carcinome épidermoïde : tumeurs cutanées. la revue du praticien. 1999 ; vol. 49
8. BASSET SEGUIN N, RENAUD VILMER C et VEROLA O. Carcinomes spinocellulaires .Encycl Méd Chir, Dermatologie. 2002 ; 98-625-A-10.

9. Heather M. Richmond, Madeleine Duvicand, Primary and Metastatic Malignant Tumors of the Scalp. AmJClinDermatol2010 ;11:233-
10. LAFAURIE P. Chirurgie de pertes de substance du cuir chevelu. Encycl Med Chir (Elsevier, Paris)
11. LEEDY JE, JANIS JE, ROHRICH RJ. Reconstruction of acquired scalp defects : an algorithmic approach. PlastReconstrSurg2005 ; 116 (4) : 54e 72e.
12. NEWMAN MI, HANASONO MM, DISA JJ, CORDEIRO PG, BEHRARA BJ. Scalp reconstruction : a 15 year experience. Ann Plast. Surg 2004;52;501-6.
13. Choo R, Woo T, Assaad D, Antonyshyn O, Barnes E, McKenzie D. Kenzie D. What is the microscopic tumor extent beyond clinically delineated gross tumor boundary in non melanoma skin cancers? Int J RadiatOncolBiolPhys2005;62:1096–9.
14. Rubin AI, Chen EH, Ratner D. Rubin AI, Chen EH, Ratner D. Basal-Cell Carcinoma. N Engl J Med 2012; 21:2262–2269.

7- Conflict of Interest

All the authors declare that they have ni conflict of interest

Figure 1: Parieto-occipital Squamous Cell Carcinoma with an Ulcerative and Exophytic Appearance on the Operating Table

Table I: Medical History of Our Patients

Medical History	Number	Percentage
High to moderate sun exposure	20	100 %
Scalp radiodermatitis	0	0 %
Actinic keratosis	3	15 %
Scalp burn	0	0 %
Scalp trauma	0	0 %
Scalp surgery	0	0 %
Hypertension	8	40 %
Diabetes	10	50 %
Tuberculosis	0	0 %
Smoking	14	70 %

Table II : Different Reconstruction Methods Used in Our Patients

Reconstruction Methods	Number	Percentage
Cutaneous		
Direct suture	3	15 %
Directed healing only	10	50 %
Skin graft after directed healing	5	25 %
Local flaps	2	10 %
Distant flaps	0	0 %
Bone	0	0 %
Dural	0	0 %