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Immediate Use of Local Flaps in Surgical Treatment of Facial Epidermoid Carcinoma

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Abstract **Case Report**

Non-melanocytic skin cancers, which include basal cell carcinomas (basaliomes) and squamous cell carcinomas (squamous cells), are the most frequent neoplasms in populations with fair skin. Squamous cell carcinoma also called squamous cell carcinoma or squamous cell carcinoma; is a malignant skin neoplasia, derived from cells of the epidermis or its appendages; of rapid growth, which can metastasize to regional lymph nodes and other organs. The treatment of facial lesions is eminently surgical. Although there are a wide variety of surgical techniques to reconstruct skin coverage, in some cases the reconstruction of defects produced by the removal of facial malignancies presents a real challenge for the surgeon. The main goal of surgical treatment of skin tumours is the absence of recurrence, whether local or distant. We report 4 cases of squamous cell carcinoma in the face with satisfactory results and without recurrence. In most cases (three), we used one or more advancement flaps and the nasolabial flap in one case.

Keywords: Squamous Cell Carcinoma, Reconstruction, Flap.

INTRODUCTION

Non-melanocytic skin cancers, which include basocellular carcinomas (basaliomas) and squamous cell carcinomas (squamous cell carcinomas), are the most common neoplasias in fair-skinned populations [1].

Squamous cell carcinoma, also known as squamous cell carcinoma or squamous cell carcinoma; is a malignant cutaneous neoplasia, derived from the cells of the epidermis or its appendages; fast-growing, which can metastasize to regional lymph nodes and other organs [2].

Squamous cell carcinomas (SCCs) account for 1/3 of skin carcinomas [3]. Squamous cell carcinoma follows in frequency in the basal cells one among skin cancers, with a 19.1%, and one case per 1000 dermatological patients is calculated. Since 1960, the annual incidence has increased by more than 4-8%; in the United States there is an average of 41 per 100,000 inhabitants; Australia has the highest rate in the world (201 cases per 100,000 inhabitants). There is predominance in white-skinned, blonde, light-eyed subjects with prolonged exposure to sunlight and whose skin burns easily; it affects people of the black race less [2].

Nearly 2.9 million squamous cell carcinomas are diagnosed each year worldwide.2 Approximately 17,000 annual deaths are attributed to skin carcinomas worldwide, 80% of which are attributed to squamous cell carcinoma alone [1]. The main goal of surgical treatment of skin tumours is the absence of recurrences, whether local or distant [4]. Excision and reconstruction must be considered together to gain any advantage, as each case presents different challenges. The option of reconstruction should be considered prior to excision when a surgical treatment plan is considered for these lesions [5]. Staged surgical excision is a more precise technique with a low rate of recurrence. This is more expensive and requires several surgeries over a long period of time [6].

Based on the realities on the ground in our country where patients are subjected to fear, lack of financial resources and the prejudices of multiple interventions, we have decided to treat our patients in a

single surgical step, i.e. the wide excision followed by the reconstruction of the loss of substance generated using local flaps.

We report 4 cases of squamous cell carcinoma in the face with satisfactory results and without recurrences; in most cases, we used one or more advancement flaps and the nasolabial flap.

OBSERVATION 1

Mrs S.S. Soninke, 71 years old, widow with a history of visual disturbances due to cataract, consulted for a lesion at the tip of the nose including the upper part of the left nasal wing of many years of evolution.

On clinical examination, a papulo-ulcerative lesion was found with partially blackish scabs and easy bleeding on a painful pink base (Figure 1 A). The preoperative blood test was unremarkable.

A total excision of the lesion amputating part of the tip and left nasal wing was performed taking into account the principle of margins.

Histological study of the excision piece showed a skin fragment exhibiting a tumour process. This tumor was made up of clumps of guts and spans of polyhedral cells. She had cytonuclear atypia. The formation of the globes was noted and the stroma was fibroinflammatory. She concluded, however, that there was a histological aspect of a Squamous cell carcinoma.

The reconstruction was done at the same surgical time using the Nelaton flap. The follow-up operation was simple. The result was good at day 14 (Figure 1 B). She was followed for five years without recurrence.

Figure 1: A preoperative aspect B- postoperative appearance at day 14

OBSERVATION 2

Mrs. Z.M.M., a 78-year-old Arab; married and with no known history of particular lesion, consults for a lesion occupying the right lateral part of the nose, the zygomatic and infraorbicular region of the right eye evolving more than 2 years. On clinical examination, a lesion of hard growth with a crust, well delineated with a crack between the nose and the zygomatic region, easy to bleed, irregular edges and bordered by an area of inflammatory appearance was observed (Figure 2 A and B)

The biological and extension assessments were unremarkable.

After excision while accounting for surgical margin, the resulting substance loss (Figure 2C) was reconstructed using a flap of upper rotation and advancement (Figure 2D). The anatomical piece was sent for histopathological study which informed from the macroscopic point of view a fragment measuring 3x2 cm, of firm consistency, greyish-white coloration covered by a skin flap. Histologically, there was a tumor proliferation consisting of lobules and spans with polygonal or fusiform squamous cells with normal atypia and mitoses and the presence of blocks. The stroma was thin and fibrous. The deep boundary was lined with striated muscle tissue with no signs of invasion and the margins were healthy. In conclusion, this was the histological appearance of squamous cell carcinoma.

La suite opératoire a été simple avec une bonne cicatrisation à J 17 (Figure 2E). Elle a été suivi pendant deux ans sans récidive avant d'être perdue de vue.

Figure 2: A and B – preoperative appearance C-Intraoperative loss of substance D- Immediate postoperative flap appearance E- Postoperative view at day 17

OBSERVATION 3

Mrs. TW Tamasheq, 80 years old, widow, from Kidal; with no particular known history consulted for a lesion occupying the entire left half of the nose of about 10 years of evolution. Clinical examination showed a tumor mass with irregular border and surface; with blackish, pink, and in places yellowish dots without secretion, well delineated with an inflammatory-looking outline (Figure 3 A and B). The preoperative assessment was unremarkable. The treatment consisted of a large excision and removal of the three layers (skin, cartilage and nasal mucosa) taking into account the concept of surgical margin, something that led us to remove more than two-thirds of the left nasal wing and part of the nasal tip.

The histology of the surgical specimen informed a squamous cell tissue that was the site of tumor proliferation made up of beaches and spans. They were made up of atypical polyhedral cells. The stroma was fibrohemorrhagic and inflammatory. This was the histological appearance suggestive of squamous cell carcinoma.

It was then reconstructed at the same time with a frontal flap (Figure 3 C, D, and E). After the flap was taken (Figure 3F) and 21 days later, we proceeded to weaning the flap and then remodeling it (Figure 3G). At 10 days of remodeling, the aesthetic result was very satisfactory (Figure 3H). The post-operative period was simple with good healing and functionality. She was followed for 2 years without recurrence.

Figure 3: Preoperative aspects A and B, Intraoperative aspects 1 (C, D and E) Intraoperative aspects 2 (G), Postoperative aspects F (d21) and H (d28)

OBSERVATION 4

M.AT 35-year-old Bambara, a farmer from rural origin with no known prior history, consulted for a lesion occupying the upper part of the lower lip that had been evolving for more than 5 years. Clinically, there was an ulcerative lesion with irregular margins and surfaces; with blackish, pink, and in places yellowish dots without secretion, well delineated (Figure 4 A). Treatment consisted of excision of the lesion and loss of substance (Figure 4 B) which was reconstructed at the same surgical time while reducing the upper lip. The post-operative period was simple.

Histology of the surgical specimen (Figure 4 C) revealed that the skin fragment was the site of tumor proliferation made up of beaches and clumps. There were globes. The stroma was fibro-inflammatory. The conclusion was that this was the histological appearance of squamous cell carcinoma with healthy margins.

The patient was followed for three years without recurrence with a very good aesthetic result at one year (Figure 4 D).

Figure 4: A –Preoperative Appearance B-Loss of Substance Generated C-Operative Specimen D-Postoperative at One Year Follow-up

DISCUSSION AND COMMENT

As the treatment of facial lesions is eminently surgical, the difficulties of repair vary greatly depending on whether they are malignant, benign or traumatic. In the first case, this treatment is a real challenge for the surgeon because it will be necessary to take into account a certain number of elements likely to promote a good therapeutic and cosmetic result while allowing a definitive cure and avoiding recurrence.

Successful treatment depends on proper planning and a multidisciplinary approach. If possible, the reconstructive surgeon should be involved in the entire surgical process, including removal of the tumor and repair of the defect [5]. There are three margin concepts to differentiate in the treatment of non-melanoma skin cancers: clinical margin, surgical margin, and pathological margin [7]. The minimum margin needed to eradicate the tumour is usually 4 mm when the size is less than 2 cm according to Wolf [2]. For the case of high risk of malignancy, it is recommended that the surgeon use lateral margins of more than 10 mm and excise below the first anatomical plane [8, 9].

The surgical technique used to reconstruct the defect resulting from the excision of a tumor with adequate oncological margins, depends fundamentally on the size, thickness and location of the loss of substance.

Loss of substance at the tip of the nose, as in observation No. 1 after the tumor has been removed, several flaps are possible for the repair of the defect. The bilobed flap is used in areas where the tissue is not sufficiently elastic to close the loss of substance such as the nasal flank, cervicocranial junction, cheek and tip of the nose. In our opinion, this flap covered only the upper part, which is why it was not used. The medial frontal flap is used in reconstruction of large defects of the back, flanks and tip of the nose. For our case 1 it could be used but we considered that it could serve as an option for us and its use in the foreground could leave a visible scar that would be anti-aesthetic despite the age of our patient.

The same was true for the frontotemporal flap of Schmid and Meyer, which also requires more time (about 8 weeks) and the patient does not require more effort by now. In the end, we opted for the Nasolabial flap which is relatively easy to carry out, capable of reconstructing by plication not only the mucous roof of the nostril but also the external covering, requires less post-operative time and with the possibility of dissimilating the scar from the donor area into the nasolabial fold as seen in Figure 1.

At the level of the cheek and especially the medial portion, compared to the lateral, zygomatic or buccal portion can be reconstructed by three techniques basically. In this case, it is possible to use a total skin graft, but in our case 2, the depth of the resulting loss of substance from the squamous cell carcinoma would cause depression which would be anti-aesthetic in such a visible and remarkable place, this possibility has been discarded.

Another possibility was the flap of advancement and rotation of the cheek of Mustardé which makes it possible to aesthetically reconstruct not only the cheek but especially the lower eyelid when the tumor reaches the palpebral margin or is adhered to the tarsus, there is a need for resection of the eyelid in its entire thickness [10]. In our opinion we were going to be too aggressive from a surgical point of view, as this technique requires more tissue mobilization and more surgical time. The right nasolabial advancement flap seemed to us to be more useful in case 2 because the local tissue by the age of the patient moves and advances, without rotation on any point. One of its advantages is the minimal distortion of neighbouring structures. It is a flap of advancement that is usually used in areas with adequate tissue laxity; in our point of view, the surgical time is optimal, facilitates the closure of the defect and an excellent surgical result (case 2). Tumor resection in Case 3 involved more than two-thirds of the left nasal wing and part of the nasal tip in an elderly patient. As in the other cases, there are several possibilities of reconstruction such as the use of the Nélaton flap as in the first case, the nasolabial flaps of advancement or rotation but all of them could have insufficient coverage, especially since it was a question of reconstructing the three nasal layers and in an elderly patient with a high possibility of mobilization of flaccid frontal tissues without major consequences. For this reason, we opted for the frontal flap with a greater coverage capacity and less possibility of necrosis with a good closure of the donor area by direct approach, good functionality and a good aesthetic result (Figure 3). We certainly think that if the patient was younger, we would have to use a skin expansion or a total skin graft to close the donor area. As for case 4, the entire upper part of the lower lip is invaded by squamous cell carcinoma, we had reconstruction possibilities such as the use of mono or bipedicled tongue flaps but this would have caused feeding difficulties just as a bipedicled flap of the upper lip would have caused the mouth to close, and even minimal effort could jeopardize the survival of the said flap. We therefore proceeded to use two flaps of advancement towards the top of the lip and the reduction of the upper lip to obtain a harmony between the two lips (fig. 4).

CONCLUSION

The treatment of facial lesions is eminently surgical and in some cases constitutes a real challenge for the surgeon; hence the need to carry out actions to prevent those, even if the results may be very satisfactory with current advances in science.

Conflict of Interest: None

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