

## Eyelid Reconstruction by Palatine Fibromucosa and Mustarde Flap: Case Report

A. D. C. Opango<sup>1\*</sup>, M. Lahrach<sup>1</sup>, K. Nini<sup>1</sup>, S. Maidam<sup>1</sup>, Z. Aziz<sup>1</sup>, N. Mansouri-Hattab<sup>1</sup>

<sup>1</sup>Department of Maxillofacial and Aesthetic Surgery, CHU Mohammed VI Marrakech, Faculty of Medicine and Pharmacy Marrakech, Cadi Ayyad University, Morocco

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\*Corresponding author: A. D. C. Opango

Department of Maxillofacial and Aesthetic Surgery, CHU Mohammed VI Marrakech, Faculty of Medicine and Pharmacy Marrakech, Cadi Ayyad University, Morocco

### Abstract

### Case Report

**Introduction:** The lower eyelid is a frequent site of basal cell carcinoma (BCC), the excision of which leaves room for loss of substance of varied characteristics which must be reconstructed. We report the case of a patient treated in our training for basal cell carcinoma of the right lower eyelid. **Observation:** This is a 78-year-old female patient, a farmer, without any particular ATCD, who presents an ulcerative-budding mass of the lower right eyelid measuring 2.5cm in its long axis, painless, and has been evolving slowly for 10 years. A facial CT scan revealed a lesional process infiltrating the eyelid without extending to the endo-orbital structures. A biopsy revealed sclerodermiform and nodular basal cell carcinoma. The patient underwent tumor excision with 1cm margins under general anesthesia, performing a total amputation of the lower eyelid associated with loss of jugal substance. She benefited from reconstruction using palatal fibromucosa for the posterior lamella and Mustardé temporo-jugal advancement-rotation flap for the anterior lamella and cheek. **Discussion:** Eyelid reconstruction constitutes a real challenge for the surgeon who must meet aesthetic and functional requirements. Several means of repair have been described in the literature. The choice falls to the surgeon who must respect the principles of eyelid reconstruction. This choice depends on the characteristics of the loss of substance and the experience of the surgeon.

**Keywords:** Basal cell carcinoma – Eyelid – Excision – Reconstruction – Fibromucosal graft – Mustardé flap.

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## INTRODUCTION

The eyelids are complex, mobile cutaneous-tarso-conjunctival blades covering the anterior part of the eyeball. They are exposed to the sun and can be the seat of many cancers, notably basal cell carcinomas. The management of these tumors is based on surgery with tumor excision which can be large and penetrating. The losses of substances left by this surgery must be reconstructed. This uses various means described in the literature.

We report a case of basal cell carcinoma of the lower eyelid which benefited from tumor excision with reconstruction using palatal fibro-mucosa and Mustardé advancement-rotation flap.

## OBSERVATION

A 78-year-old patient, with notion of sun exposure due to her work (farmer), with no other particular history, consulted our training for a lesion of

the right lower eyelid. It was an ulcero-budding mass slowly increasing in size, evolving for 10 years. This mass was painless and non-bleeding on contact. It was associated with a right peri-alar nodular lesion. There was no cervical lymphadenopathy.

A facial CT scan revealed a lesion process in the right lower eyelid, infiltrating, fairly well limited, measuring 2.5 x 2cm without affecting the fat and intraorbital structures, therefore limited to the eyelid.

A biopsy with pathological examination revealed a carcinomatous proliferation arranged in lobules, nodules and lines with medium-sized tumor cells with anisokaryotic, hyperchromic nuclei of palisade organization at the periphery with the presence of retraction cleft. These cells are the site of atypical mitoses and their cytoplasm is sparsely basophilic, suggestive of sclerodermiform and nodular basal cell carcinoma.

The patient underwent tumor excision under general anesthesia with safety margins of 1cm, leaving room for a large loss of transfixing substance in the lower right eyelid also affecting the upper part of the cheek. At the same time, she benefited from a reconstruction using a palatal fibromucosa graft for the posterior lamella and a Mustardé advancement-rotation flap for the anterior lamella and the loss of jugal substance.



**Fig 1: Lower oral BCC with excision margins**



**Fig 2: Loss of substance after tumor excision**



**Fig 3: Sampling of palatal fibromucosa**



**Fig 4: Palatal fibromucosa graft for the posterior lamella**





**Fig 5: Mustardé advancement-rotation flap**



**Fig 6: Result on the operating table**



**Fig 7: Result after one month**

Pathological examination confirmed the diagnosis of sclerodermiform and nodular basal cell carcinoma of complete excision with healthy safety margins.

The evolution was marked by a tearing. No sign of recurrence was noted after 6 months of follow-up.

## DISCUSSION

Basal cell carcinomas are the most common cancers in humans, accounting for nearly 90% of all cancers [1]. It is also the most common cancer of the eyelids (86-96%) [2]. The risk factors are numerous: solar exposure, light phototype, ionizing radiation, certain pathologies (albinism, xeroderma pigmentosum, basal cell nevomatosi). The risk of metastasis is low [1]. Surgery (tumor excision with healthy margin) remains the gold standard of treatment, although other therapeutic means exist including radiotherapy, curettage with electrodesiccation, cryotherapy, chemotherapy, targeted therapies, etc [3-6].

Tumor excision leaves room for losses of substance of varying size which may be superficial or transfixing. Indeed, from a surgical point of view, the eyelid comprises two planes: a tarsoconjunctival plane (posterior lamella) and a cutaneous-muscular plane (anterior lamella). In loss of transfixing substance of the eyelid, it is fundamental to reconstruct the 2 planes. Any eyelid reconstruction is based on two fundamental principles: lamellar reconstruction and the principle of homology (reconstructing by the structure having the same characteristics) [7, 8].

Reconstruction of the posterior lamella (tarsoconjunctival) may use flaps such as Cutler-Beard tarsoconjunctival flap, Hughes flap, Reverse Hughes tarsoconjunctival flap, Lid-switch flap [9]. Grafts also constitute a means of reconstruction, notably grafts of ear cartilage, nasal cartilage, oral mucosa (lip or cheek) or vein graft. Each of these techniques has its advantages and disadvantages or limitations.

Palatal fibromucosa grafting is a procedure for repairing the posterior lamella of the eyelid, first described in 1985 by Siegel. This process has been widely used [10, 11]. It takes place in 3 stages: a first eyelid stage for preparing the recipient site, an oral stage for harvesting the graft and a second eyelid stage for placing the graft. The advantages of this graft are that we have a rigid graft serving as a framework for the eyelid, its ease of access (in the same operating field), and the histological structure of its mucous surface imitating conjunctiva [12]. The main disadvantages are the risk of bleeding and postoperative pain at the donor site.

The reconstruction of the anterior lamella involves different reconstruction processes: directed healing, skin grafting, flaps (temporo-jugal

advancement-rotation of Mustardé, Mac Grégor, nasolabial flap of Tessier, heteropalpebral flap of Tripier, etc.). However, when using the palatal fibromucosa graft, the reconstruction of the anterior lamella requires the use of a flap in order to respect the principle of safety. This principle states that we can combine either two flaps together, or a flap and a graft, but never two grafts together (high risk of necrosis) [13].

Reconstruction of the eyelid constitutes a challenge for the surgeon. It must meet aesthetic and functional requirements. The means of reconstruction are numerous. The choice depends on the characteristics of the defect, the surrounding structures, and the surgeon's habits.

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