

Combined Webster Abbe Flap For Subtotal Upper Lip Reconstruction: A Case Report

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Abstract

Many surgical techniques have been described for the repair of lip loss of substance. There is no single solution for each repair. There are classical indications, and the plastic surgeon must know the principal ones. Each case being particular, the surgeon must often adapt these techniques or combine them. The objective is to achieve the ideal result according to the etiology, the extent of the loss of substance and the local tissue availability. The authors report the case of a reconstruction of the upper lip with an abbe flap associated with a bilateral Webster type jugal advancement flap.

Key words: Lip surgery; Abbe flap; Webster flap.

Introduction

The main cause of lip substance loss is carcinological tumoral origin. Reconstruction of lip loss is a therapeutic challenge that must meet two principal requirements: to provide patients with a good quality aesthetic result and to preserve lip function. [1]. Lip surgery follows basic rules to ensure an optimal result. It must respect the mucocutaneous junction, the aesthetic subunits, and the commissures. The repair is sometimes based on a simple

suture, but more often it is necessary to perform flaps. However, it is important to keep in mind a founding main principle: repair the lip with the lip.

Case report

This is a 69-year-old woman, with a history of diabetes and hypertension, presents with a nodular type of basal cell carcinoma of the upper lip. The tumor is very advanced and has a central position on the upper lip at the philtral and paraphiltral level and extending

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over the red lip (Figure 1). Therapeutic decisions were made in a multidisciplinary approach involving plastic surgeons, chemotherapists, and radiotherapists. The tumor was removed with a carcinological safety margin of 0.5 cm. The design of the incisions of the Webster flap included, in a bilateral manner: a skin excision in a peri-

alar crescent and a mucosal incision 2 mm from the bottom of the gingivolabial fold. The incision of the upper margin is parallel to the mucocutaneous junction. For the Abbe flap, it is traced at the level of the lower lip, the point of rotation has the right coronary artery as its pivot (Figure 2).



Figure 1: Preoperative Aspect.



Figure 2: Aspect of the defect and layout of the Flaps.

The authors infiltrate with adrenalized saline. The authors then proceed to the incision of the drawing, then to the removal of the flaps. For the abbe flap, the coronary artery is protected by the mucous membrane of the internal face of the lip. The 3 flaps are faced and sutured in 3 planes: the muscular plane is closed with X sutures; the mucosal plane is closed with separate 4/0 absorbable

sutures and finally the cutaneous plane is closed with separate sutures. The vascular pedicle was protected by moist dressing (Figure 3). The division was performed after three weeks (Figure 4). Postoperative care required a pasty diet. The final result was very satisfactory on the functional and aesthetic level with a 6-month delay (Figure 5).



Figure 3: Placement of the flaps.



Figure 4: Weaning of the Abbe flap after 3 weeks.



Figure 5: Result after 6 months.

Discussion

The goals of labial reconstruction surgery are to preserve labial continence, to preserve a maximum of oral opening and as much labial mobility and sensitivity as possible and finally to obtain the best possible aesthetic result [2-4].

To establish the indication for the repair technique, it is necessary to precisely identify the location of the loss of substance, defect superficial or transfixing (in particular, the involvement of the orbicularis muscle), as well as the proportion of the interrupted labial volume in relation to the whole lip [4]. The reconstruction ladder starts with simple procedures and goes up to the most complex techniques [2]. Simple sutures are the simplest techniques for small losses of substance. The next step is the use of local flaps [4]. These have the advantage of tissue color matching, relatively easy accessibility, simple surgical techniques, and the use of innervated muscles. Local flaps have some disadvantages such as the need to make additional skin incisions in the face [5]. Free flaps and grafts are the last option available to the surgeon for a plasty after lip tumor resection [6].

When a defect involves the entire thickness of the lip, the repair is tritissular, including the muscles, the mucosa and the skin [5]. In this case, the repair depends [4] on the volume of the labia concerned: the rule of thirds applies (particularly in the lower lip). In the upper lip, complete reconstruction of the philtral region should be preferred, if possible, regardless of the rule of thirds.

When a transfixing substance loss does not exceed one third of the length, a V- or W-shaped resection-suture is indicated, generally corresponding to a substance loss of 2 to 2.5 cm at most [5].

When the loss of substance exceeds one third of the labial volume, simple W resection is no longer indicated because of the risk of secondary microstomy, hence the use of a local or locoregional plasty [5,7].

When the size of the loss of substance exceeds 80% of the lip, complex reconstruction techniques are required [8]. In these cases, the combination of different flaps can be proposed. For the repair of a subtotal loss of substance of the upper lip, two Webster-type full-thickness jugal advancement flaps can be dissected for the lateral sub-units and an Abbe flap harvested from the lower lip to reconstruct the philtral region [9].

The Abbe flap Described by R. Abbe in 1897, this flap, called the lower lip turning flap, is indicated for the repair of transfixing loss of substance of the upper lip (and sometimes the lower lip) whose size is up to 1/3 of the lip. It is a heterolabial flap, which uses one lip to repair a loss of substance involving the opposite lip.

It is vascularized by the coronary artery of the lower lip, which is located at the cutaneous-mucosal junction of the lip and must be preserved. The Abbot flap is performed in two stages, the second stage corresponding to the weaning of the flap [10-12].

The full-thickness Webster flap was described in the 1960's. It is harvested in full thickness and can be used in a single stage for the management of substance losses of more than one third, especially for the upper lip. In the repair of upper labial subtotal loss of substance, the Webster flap can be harvested bilaterally for repair of the paraphilateral subunits [1]. The Webster technique advantageously conceals the incision in the peri-alar region. Excision of a crescent of skin at this level facilitates advancement of the lip and cheek, while avoiding an increase in height of the reconstructed lip [13].

The rate of postoperative complications in lip plasty remains relatively low, and it depends mainly on the size of the loss of substance [9].

Dehiscence or wound loosening can result from several factors ranging from intrinsic patient factors such as malnutrition, preoperative radiation therapy, and active smoking to poor surgical flap design related to excessive suture tension [14,15].

Flap necrosis is often multifactorial. It is thought to be secondary to poor surgical technique and/or poor choice of flap, to a wound under tension, to a hematoma or to an aggressive infection in a patient with poor

vascular terrain [16]. Rotational flaps, such as Abbe are dependent on preservation of the labial coronary artery pedicle [7]. Excessive stretching of the vascular pedicle for aesthetic reasons or twisting it can damage the labial coronary artery pedicle [5,15,17,18]. Early weaning after 2 to 3 weeks of pedicled flaps may result in total or partial flap loss [19].

Postoperative infections after reconstruction surgery secondary to labial tumors are relatively rare (between 0 and 17.9%) [20]. Infection favors scar loosening and retraction. It is a negative factor from an aesthetic point of view [15]. Because of the proximity of the oral cavity and its germs, an adapted pre and postoperative antibiotic therapy is justified (amoxicillin + clavulanic acid) as well as mouth rinsing after each meal and at bedtime [5].

In this case, there were no complications with a very good functional result and a very satisfactory aesthetic result.

Conclusion

The combination of Abbe's heterolabial flap with Webster's procedure to reconstruct a subtotal loss of substance of the upper lip provides very satisfactory results both functionally and aesthetically, making this combination a technique of choice.

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