

Bipedicled Scalp Flap for Coverage of a Frontal Loss of Substance: About One Case

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Abstract

Case Report

Introduction: Scalp defects are frequent in the daily practice of plastic surgeons. Their etiologies are multiple; they can be of tumoral origin, infectious, secondary to a burn, post-traumatic... The great vascular richness of the scalp explains the possibility of using local flaps. **Clinical Case:** This is an 80-year-old patient with ATCD: arterial hypertension under treatment. The onset of symptoms dates back 10 years when the patient was operated on by neurosurgeons for a frontal meningioma for which she underwent excision + cranioplasty. The patient presented after 10 years for cranioplasty rejection with signs of local infection. The decision to remove the prosthetic material and cover the loss of substance was taken. After removal of the cranioplasty material by the team of neurosurgeons, we decided to perform a bi-pedicled scalp flap vascularized by the occipital pedicle and the posterior auricular pedicle, the donor area was grafted. The postoperative course was unremarkable. The result was considered good without complications. **Conclusion:** The anatomical particularities of the scalp explain all the originality of the reconstructions of this region. In our patient, the advantage of using the bipediculated flap is its extreme reliability, especially when the cranial vault has to be sacrificed.

Keywords: Scalp defects, arterial hypertension, cranioplasty rejection, bipediculated flap.

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INTRODUCTION

Scalp defects are common in the daily practice of plastic surgeons. Their etiologies are multiple; they can be of tumoral origin, infectious, secondary to a burn, post-traumatic... The great vascular richness of the scalp explains the possibility of using local flaps.

CLINICAL CASE

This is an 80-year-old patient with ATCD: arterial hypertension under treatment. The onset of symptoms dates back 10 years when the patient was operated on by neurosurgeons for a frontal meningioma for which she underwent excision + cranioplasty.

The patient presented after 10 years for cranioplasty rejection with signs of local infection. The decision to remove the prosthetic material and cover the loss of substance was taken.



Figure 1: Rejection of prosthetic material

After removal of the cranioplasty material by the team of neurosurgeons, we decided to perform a bi-pedicled scalp flap vascularized by the occipital pedicle and the posterior auricular pedicle, the donor area was grafted (Figure 2 /3).



Figure 2: Bi-pedicle scalp flap



Figure 3: Donor area thin skin graft

The postoperative course was unremarkable.

The result was considered good without complications.

DISCUSSION

The anatomical and physiological particularities of the scalp explain all the originality of the reconstructions of this region. Some factors remain constraints (shape of the skull, inelasticity, hairy cover), others are facilities (detachable space and hard subsoil, vascular richness, concealed scars).

The goal of the intervention is to find a skin cover that is hairy at best.

Thus, going from the simplest to the most complicated, we can choose:

- Direct Suture: This is only possible on small losses of substance, less than 1.5 or 2 cm wide depending on the case, due to the spontaneous inextensibility of the scalp.
- Directed Healing: Without interest at the level of the scalp, it is only used in practice to prepare the basement for a graft.
- Skin Graft: This is mainly thin or semi-thick skin, which can come from the scalp itself. It is only possible if the periosteum is intact. Otherwise, it can sometimes be made possible on the granulation

tissue obtained after perforations or excision of the external table (small surfaces).

- Scalp Flaps: The great vascular richness of the scalp explains why it is possible to consider not only conventional flaps (without any particular macroscopic pedicle) but also vascular flaps focused on an arteriovenous pedicle.

In our case, we opted for a bipediced flap, vascularized by the occipital pedicle and the posterior auricular pedicle, the donor area was grafted.

The bi-pediced scalp flap involves transferring a “bucket handle” flap by sliding, the ends of which best correspond to a pedicle. The flaps are wide, using almost all of the remaining scalp, the donor area being grafted.

Depending on the location of the loss of substance, the flap can tilt laterally, or in the anteroposterior axis.

Their advantage is their extreme reliability which makes them very useful when the cranial vault has to be sacrificed, in certain oncological excisions for example.

Their disadvantages are, in addition to the existence of a large ear, especially the problems of their mobilization and it is necessary to anticipate the difficulties that can pose the crossing of zones of maximum convexity (vertex).



Figure 4: Result after 8 months

CONCLUSION

Surgery for loss of substance of the scalp is very complex; the indications are perfectly codified and now allow reliable and aesthetic reconstructions.

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