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EXTENSIVE FACIAL ALLOGENEOSIS SECONDARY TO UNKNOWN ALLOPLASTIC MATERIAL TREATED BY RADICAL EXCISION AND MICROSURGICAL RECONSTRUCTION WITH RADIAL FREE FLAP: CASE REPORT AND LITERATURE REVIEW

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ABSTRACT

Introduction: Iatrogenic allogeneosis is a complication derived from the infiltration of alloplastic substances for aesthetic purposes, characterized by a chronic inflammatory foreign body response that can cause fibrosis, material migration, anatomical deformity and functional compromise. Surgical treatment represents a reconstructive challenge, especially when the resection generates extensive defects in facial regions of high aesthetic relevance. **Objective:** To describe the surgical and reconstructive management of a patient with extensive facial allogenosis by radical excision and microsurgical reconstruction with fasciocutaneous free flap of the radial artery. **Case Presentation:** A 56-year-old male patient with a history of HIV infection under antiretroviral treatment and a controlled viral load. He presented with progressive deformity and chronic inflammation located in the nasal dorsum, nasal bridge, right nasal lateral wall, and ipsilateral malar region, two years after the infiltration of unidentified alloplastic material. Imaging studies confirmed extensive soft tissue infiltration compatible with facial allogenosis. Complete excision of the compromised tissue and immediate reconstruction by means of a fasciocutaneous free flap of the left radial artery were performed. During the procedure, multiple tensor threads not previously reported by the patient were identified. The postoperative evolution was satisfactory, without microvascular or infectious complications. At 74 days, complete flap integration and adequate coverage of the defect were evidenced. **Conclusions:** The radial free flap is a reliable alternative for the reconstruction of complex facial defects secondary to extensive allogenosis resection, providing thin, adaptable tissue with excellent vascularization.

KEYWORDS : Iatrogenic Allogeneosis; Facial Reconstruction; Radial Free Flap; Microsurgery; Alloplastic Materials; HIV.

INTRODUCTION

The search for minimally invasive procedures for facial rejuvenation has increased the use of fillers and alloplastic substances. Although many products are approved by regulatory, the use of permanent materials or materials of unknown origin continues to generate serious long-term complications.

Iatrogenic allogeneosis was described by Coiffman as a disease caused by the infiltration of foreign substances that trigger a persistent inflammatory reaction with granuloma formation, progressive fibrosis, and significant aesthetic alterations. The migration of the material, the impossibility of identifying the infiltrated substance, and the involvement of multiple anatomical planes make its treatment difficult.

When there is extensive facial involvement, surgical resection continues to be the most effective therapeutic strategy. However, radical excision can generate complex defects whose reconstruction requires simultaneous restoration of volume, contour and skin coverage.

Among the available microsurgical alternatives, the fasciocutaneous radial artery free flap continues to be one of the most versatile options due to its constant vascular anatomy, long pedicle, reduced thickness, and excellent adaptability to facial subunits.

We present the case of a patient with extensive facial allogenosis secondary to unknown alloplastic material treated by radical excision and immediate reconstruction with radial free flap.

Case Presentation

A 56-year-old male patient with a history of human immunodeficiency virus (HIV) infection on regular antiretroviral treatment and an undetectable viral load.

He reported a history of facial infiltration with alloplastic material for aesthetic purposes approximately two years before the consultation. The patient did not know the type of substance used, manufacturer, infiltrated volume, and technique used.

Subsequently, he presented progressive increase in volume, facial deformity and persistent inflammation located in the nasal dorsum, nasal bridge, right nasal lateral wall and ipsilateral malar region.

Physical examination revealed diffuse infiltration of soft tissues with alteration of the facial contour and involvement of multiple nasal and malar aesthetic subunits. Imaging studies showed heterogeneous infiltration of soft tissues compatible with alloplastic material and chronic inflammatory reaction.

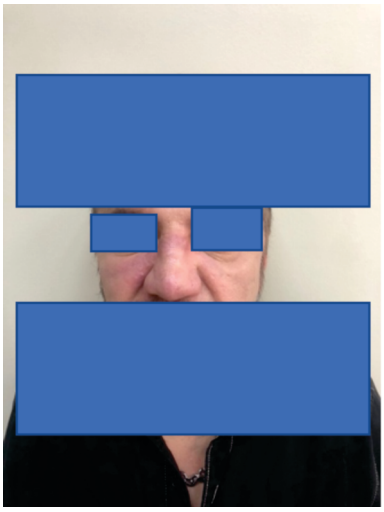

Image 1: Pre-surgical Where You Can See Ethematous, Inflamed Areas at the Nasal and Left Malar Level.

After multidisciplinary evaluation, surgical treatment was decided by means of wide resection of the compromised tissue and immediate microsurgical reconstruction.

Surgical Technique

Under general anesthesia, complete excision of the infiltrated tissue was performed until macroscopically healthy margins were obtained.

The resection compromised:

- Nasal dorsum.
- Nasal bridge.
- Right lateral nasal cut off.
- Ipsilateral malar region.

During the dissection, multiple tensor threads incorporated into the inflammatory tissue were identified, a finding not previously reported by the patient. They were removed together with the alloplastic material and compromised tissue.

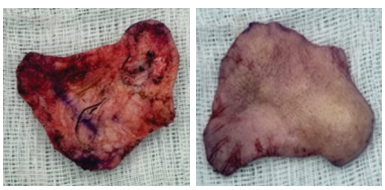

Image 2 and Image 3: Resected Tissue of the Nasal Region and Evidence of Tensor Threads.

The excision generated a complex defect with exposure of deep planes that made primary closure impossible.

Image 4 and Image 5: Excision of Tissue Committed to Alloplastic Material with a Bloody Area and Defect in Residual Coverage (Recipient Area).

A fasciocutaneous free flap was designed based on the left radial artery and its concomitant veins. After flap elevation, end-to-end microvascular anastomoses were performed with the facial receptor vessels.

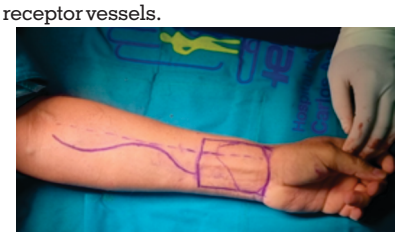

Image 6: Presurgical Radial Flap Marking Taking into Account its Anatomical Components

Image 7: Fasciocutaneous Free Flap of the Left Radial Artery Ready for Microsurgical Anastomosis.

Subsequently, the three-dimensional adaptation of the flap to the facial defect and closure by planes was performed. The donor area was managed according to the usual reconstructive principles.

Postoperative Evolution

Clinical monitoring showed adequate arterial perfusion and venous drainage from the immediate postoperative period.

At 24 hours the flap presented:

- Proper coloring.
- Preserved temperature.
- Normal hair filling.
- Absence of venous congestion.

The following were not observed:

- Partial necrosis.
- Total necrosis.
- Vascular thrombosis.
- Hematoma.
- Seroma.
- Infection.
- Dehiscence.

Image 8: Free Flap at 24 Hours Post-surgery

During outpatient follow-up, tissue integration was progressive.

At 74 postoperative days, complete flap survival was evidenced with adequate coverage of the facial defect and satisfactory restoration of the facial contour.

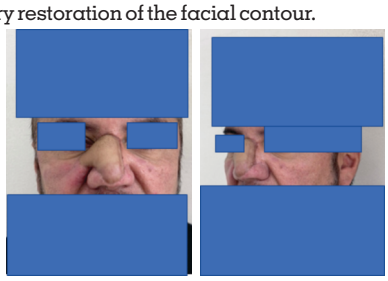

Image 9 and Image 10: 74 Days Postoperatively. Flap in Recipient Area and Donor Area.

A slight thickening of the flap was observed, an expected finding during the scarring maturation process, so a secondary slimming procedure was planned to optimize the aesthetic result.

The donor area presented a completely consolidated scar and total functionality of the left upper extremity.

Image 11: 74 Days Postoperatively. Donor area with Adequate Healing and Preserved Functionality.

DISCUSSION

Iatrogenic allogenosis represents a complex entity whose management continues to be controversial due to the difficulty in completely eliminating the infiltrated material.

Coiffman described that most patients do not know the exact nature of the injected substance, a situation that was also observed in our case. In addition, the intraoperative finding of tensor threads evidences the frequent coexistence of multiple undocumented aesthetic procedures.

Surgical resection is the main therapeutic option when there is significant deformity, persistent chronic inflammation, or material migration.

Once the excision has been performed, the reconstructive challenge arises. Several alternatives can be considered:

Skin Grafts

They have poor aesthetic quality in the centrofacial region due to differences in color, texture and thickness. In addition, they suffer secondary retraction.

Cervicofacial Flap

It represents an excellent alternative for moderate defects of the cheek and perinasal region. However, in extensive three-dimensional defects it presents mobility and volume limitations.

Front Flap

It allows partial nasal reconstruction, but requires multiple surgical times and is not ideal when there is simultaneous involvement of several facial aesthetic units.

Anterolateral Thigh Flap (ALT)

It offers abundant vascularized tissue, although it is often excessively thick for nasal and centrofacial reconstructions.

Radial Free Flap

It provides fine and malleable tissue, ideal for restoring the contour of nasal and malar regions. Its long pedicle, constant anatomy and high microsurgical success rate make it one of the flaps of choice for complex facial defects.

In the present case, the radial flap allowed immediate reconstruction, adequate three-dimensional adaptation and absence of complications, obtaining a satisfactory functional and aesthetic result.

Another noteworthy aspect corresponds to the history of HIV infection. Recent studies show that patients with a controlled viral load and adequate antiretroviral therapy have healing rates and flap survival comparable to the general population, a finding consistent with our experience.

CONCLUSIONS

Facial allogeneosis secondary to unknown alloplastic materials continues to be a highly complex reconstructive complication.

Radical excision associated with microsurgical reconstruction by means of fasciocutaneous free flap of the radial artery is a safe and effective alternative for extensive defects of the centrofacial region.

The anatomical characteristics of the radial flap allow for stable coverage, adequate restoration of the facial contour and minimal morbidity of the donor area.

The present case demonstrates that even in patients with a history of controlled HIV, it is possible to achieve satisfactory reconstructive results without increasing postoperative complications.

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