Case Reports and Reviews

Original Article

Non-Surgical Management of Nasal Scar Using Nasal Adipo-Structuring Technique And PDO Threads: A Case Report

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Abstract

Blunt-sharp nasal trauma, caused by impacts or injuries with objects that produce a cutting wound, is a situation observed in Colombia, with a reported incidence of approximately 1.8% in some studies. These cases are commonly associated with sharp object injuries or traffic accidents. This report presents the non-surgical management of a nasal scar in a patient who suffered a sharp-object injury to the nasal dorsum, treated with a combined technique of facial adipo-structuring and PDO threads. The results demonstrated improvement in both the appearance of the scar and the overall nasal aesthetics with this approach.

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Keywords

adipostructuring, rhinoplasty, cannulas, Scaffolding.

Introduction

The Adipo-structuring technique consists of the paniculopathic reorganization of facial fat compartments based on their structure, physiology, and biomechanics, without any extraction under any circumstance [1,2]. At the nasal level, the adipose structure follows the same pattern as other facial compartments—fat pads separated by interseptal spaces, distributed evenly across superficial and deep planes [3]. In addition, the interdomal fat pad introduces an important element contributing to supratip fullness. This discrete fat pad, located between the two domes and extending into the supratip area, is present in noses of all skin thicknesses and is distinct from the surrounding subcutaneous fat [4]. This suggests that the nasal region contains multiple discreetly distributed adipose compartments that play a structural role and, in many cases, are responsible for the shape and contour of the nose.

Furthermore, adipose tissue is a vital source of stem cells with regenerative potential, capable of tissue remodeling when needed. Dermal white adipose tissue (dWAT) is increasingly recognized as a unique fat reservoir; its adipocytes exert diverse effects on surrounding cells and can undergo massive phenotypic changes. Notably, significant modulation of dWAT content is observed in both intrinsically and extrinsically aged skin. In damaged skin, adipocytes are often replaced by fibrotic tissue—a process likely driven by the recently identified "adipocyte-to-myofibroblast transition" (AMT) [5]. These findings elevate dermal adipocytes as key targets in strategies aimed at reversing dermal aging or injury-related changes. Based on this evidence, we propose the nasal adipo-structuring technique, termed Adiporino, with the goal of reorganizing the adipose tissue and overlying skin in a patient who suffered a sharp-object wound to the nasal dorsum. The approach was complemented by tissue regeneration scaffolds in the form of polydioxanone (PDO) threads.

Case Report

A 61-year-old female patient with no relevant medical or aesthetic history presented with a nasal deformity. Approximately 50 years ago, she suffered blunt-sharp trauma to the nose with a machete. The injury was not medically evaluated or treated and underwent secondary intention healing. On physical examination, the patient was classified as Fitzpatrick phototype V. The nose exhibited a flat dorsum, a wide and rounded nasal tip, and a linear, slightly hypertrophic scar on the nasal dorsum, predominantly affecting the right ala. This resulted in an irregular and disharmonious nasal contour (Figure 1).

Methodology

Three sessions of adipo-structuring were performed on the nasal dorsum, columella, nasal alae, and pyramidal structure using a cannular sculpting technique, targeting the panicular system of the nasal area (Figure 2). The procedure involved movements applying both amplitude and torque over the nasal paniculopathic system, with an interval of four weeks between each session.

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Figure 1. *Female patient, Fitzpatrick phototype V, with a blunt-sharp wound located at the supratip and extending toward the nasal ramp.*

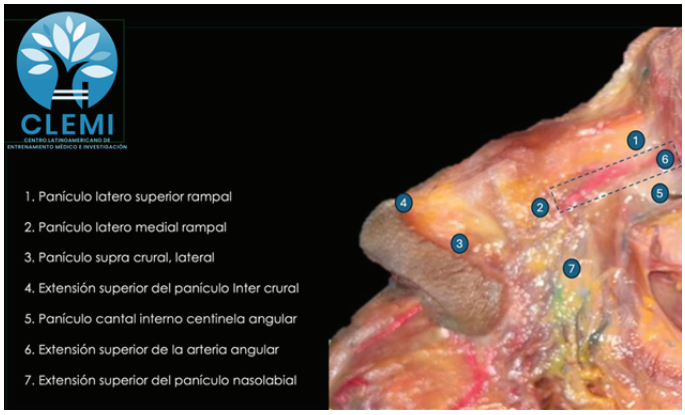

Figure 2. *Superficial dissection of the nasal area showing the location of the superficial paniculopathic system: 1. Rampal superolateral fat pad. 2. Rampal superomedial fat pad. 3. Supracrural lateral fat pad. 4. Superior extension of the intercrural fat pad. 5. Sentinel angular internal canthal fat pad. 6. Superior extension of the angular artery. 7. Superior extension of the nasolabial fat pad. Dissection performed at the Latin American Center for Medical Training and Research (CLEMI), Bogotá, Colombia. November 2024.*

A 22G/50mm cannula was used to deliver microdoses of 0.1 mL per nasal fat compartment of Nosestructure—a blend of integrative solutions including caffeine, DMAE, and Centella asiatica extract—intended to promote nasal reshaping. At the end of each session, five PDO threads (31G × 13 mm) were applied on each side of the nasal dorsum, totaling 30 smooth PDO threads over the three sessions (31G × 13 mm) (Figures 3a and 3b).

Results

Ninety days after treatment—following three sessions of adipo-structuring and the placement of 30 PDO threads—positive outcomes were observed. The scar appeared significantly more diffused and non-hypertrophic. The nasal shape showed notable improvement, with a more defined and symmetrical contour. The skin appeared more even, with improved texture (Figure 4).

Figure 3a*. Adiporino procedure at the nasal level, showing cannula entry at the nasal tip through the interdomal area.* ***Figure 3b.*** *Placement of PDO threads in the scar region.*

Figure 4a*. Pre-treatment appearance.* ***4b.*** *Three months after treatment.*

Discussion

TNon-surgical treatments based on facial adipo-structuring have become a valuable tool prior to considering more invasive interventions. In fact, it may be regarded as a preparatory step for subsequent treatments, as supported by other studies [2]. Treatment with threads has also become an increasingly popular aesthetic procedure due to its effective lifting capabilities and significantly reduced downtime compared to traditional surgical methods [6]. Therefore, the use of PDO threads to promote the regeneration of damaged tissue proved to be a suitable option in this case. What becomes evident through these protocols is that thread placement requires the preparation of a space that facilitates tissue regeneration and improvement of fibrotic tissue by creating a scaffold [7].

The improvement in dermal tissue quality, along with a subtle nasal lift, demonstrates that the repositioning of structures and redistribution of fat tissue contributed to the clinical outcome [2]. This highlights the potential of combined treatments to address severe nasal damage that might otherwise be excluded

from surgical correction due to associated risks. These findings encourage continued scientific research based on real-world outcomes in patients with limited treatment options.

Conclusion

Facial adipo-structuring proved to be effective due to its mechanical action on fat compartments and the application of bioactive and senolytic compounds, providing tissue support, anti-inflammatory effects, tissue repair, and collagen stimulation. When combined with PDO threads, it may represent a simple, low-cost option with favorable aesthetic outcomes for patients with post-traumatic scarring who, for various reasons, prefer to avoid surgical correction.

References

1. Velazco Viloria GJ. Adipoestructuración facial. Acta Bioclínica. 2020;10(20):Julio-Diciembre 2020.
2. Amin M, Mercado V, Velazco G. Non-Invasive Treatment after Infection in Rhinoplasty: Case Report. Clin Surg. 2024;4(1):1006.
3. Ozturk C, Larson JD, Ozturk C, Zins J. El SMAS y los compartimentos grasos de la nariz: un estudio anatómico. Cirugía Plástica Estética. 2012.
4. Sun GK, Lee DS, Glasgold AI. Interdomal Fat Pad. Arch Facial Plast Surg. 2000;2(4):260-263.
5. Ruglikov IL, Scherer PE. Envejecimiento de la piel: ¿son los adipocitos el próximo objetivo? Aging (Albany NY). 2016;8(7):1457-1469. doi:10.18632/aging.100999. PMID:27434510; PMCID:PMC4993342.
6. Ziade G, Saade R, Daou D, Karam D, Bendito A, Tsintsadze M. Nasal Reshaping Using Barbed Threads Combined With Hyaluronic Acid Filler and Botulinum Toxin A. J Cosmet Dermatol. 2025;24(2):e70047. doi:10.1111/jocd.70047. PMID:39936459; PMCID:PMC11816005.
7. Kim H, Bae IH, Ko HJ, Choi JK, Park YH, Park WS. Novel Polydioxanone Multifilament Scaffold Device for Tissue Regeneration. Dermatol Surg. 2016;42(1):63-67. doi:10.1097/DSS.0000000000000585. PMID:26671204.