OPEN ACCESS

Clinics Surgery

Review Article

Article Information

Received date: Aug 07, 2025
Accepted date: Aug 16, 2025
Published date: Aug 19, 2025

***Corresponding author**

Gladys Velazco, Asociacion Cientifica Colombiana de Sustentacion Orofacial. Bogota, Colombia

Copyright

© 2025 Velazco G et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Facial Adipo-Structuring as a Volumetric Restoration Strategy: Evaluation of 103 Cases over a Seven-Year Period

Gianna Vegas[1], Gladys Velazco[1,2,3*], and Said Rodea[4]

[1]*Asociacion Cientifica Colombiana de Sustentacion Orofacial. Bogota, Colombia*

[2]*Laboratorio Integrado de Biologia Molecular y Celular . Universidad de Los Andes. Merida Venezuela*

[3]*Centro Latinoamericano de Entrenamiento Medico. CLEMI. Bogota, Colombia*

[4]*Clinica Epilog, Merida, Yucatan, Mexico*

Abstract : R Facial adipo-structuring has emerged as an effective technique for three-dimensional facial volume restoration, combining both structural and regenerative effects. This study aims to present the clinical outcomes observed in 103 patients treated with facial adipo-structuring between 2018 and 2024, evaluating its efficacy, safety, and patient satisfaction. An observational, descriptive, and retrospective case series was conducted. Patients (both sexes, aged 16 to 82 years) were treated in areas such as the malar region, jawline, chin, nose, lips, and submental fat. Clinical follow-up included tools such as the Visual Analog Scale (VAS), the Global Aesthetic Improvement Scale (GAIS), and the Common Treatment Response Diary (CTRD). Results showed a predominance of female patients, although 11.65% were male—reflecting the growing interest among men in minimally invasive procedures. Of all patients, 50.4% were aged 40 to 59 years, 25.2% were over 60, and 26.2% were under 39, indicating both corrective and preventive use. A total of 53.4% received 2 to 3 sessions, while 16.5% required four or more. In terms of tolerance, 97.1% reported no or mild pain, with no cases of severe pain or infection. Side effects were mild and transient, including erythema (100%) and bruising (64.08%). Significant aesthetic improvement (GAIS scores 1 and 2) was observed in 84.5% of cases, and 76.7% reported improvement in skin quality. Facial adipo-structuring proved to be a safe, effective, and highly satisfactory technique for volumetric restoration and facial rejuvenation, with minimal discomfort and transient adverse effects.

Keywords: Facial Fat Grafting, Safety in Adipose Structuring, Escalator of Gays in adipostructure

Introduction

Modern aesthetic treatments for facial rejuvenation have evolved toward techniques that not only aim to reduce or eliminate volume, but also to preserve and optimize fat tissue, which is essential for maintaining the face's natural structure and vitality. Among current strategies, the most notable include:

- **Traditional liposuction and fat grafting:** Fat is harvested from donor areas and reinjected into facial zones with volume loss. However, the survival of the grafted fat depends heavily on the handling technique and may show variable results [1].

- **Filler techniques using hyaluronic acid and biostimulators:** These act on volume and collagen stimulation, but do not restore the deep fat or ligamentous architecture [2].

- **Adipo-structuring or Facial Adipo-structuring (FA):** An innovative technique based on the volumetric repositioning of fat compartments and the facial ligament system, without extraction or tissue

damage. This method aims for "intelligent rejuvenation" by repositioning and stabilizing adipose compartments through precise manipulation, maintaining the biocompatibility and functional integrity of the fat. It also enhances skin quality and structural support, achieving a natural and long-lasting three-dimensional effect [3].

- **Combined therapies:** These integrate adipo-structuring with complementary procedures such as laser, chemical peels, and thread lifting to optimize overall outcomes while preserving natural facial features.

While many treatments focus on either filling or removing fat, the facial adipo-structuring technique stands out for conserving, repositioning, and stimulating adipose tissue and the ligament system. This results in a harmonious and functional facial restoration that respects natural anatomy [3]. Intelligent rejuvenation [3] is based on an innovative approach that targets fat compartments without extracting them, and stimulates each facial ligament. This allows tissues to reorganize naturally and intelligently, promoting volume restoration and facial revitalization that respects both anatomy and function. The goal is to achieve a healthier, more youthful appearance through minimally invasive interventions that support the skin's own regenerative capacity. Facial adipostructure is defined as a technique aimed at the paniculopathic reorganization of facial fat compartments based on their structure, physiology, and biomechanics, without removing them under any circumstances. This technique is performed with cannulas, which are used as a sculpting tool on the adipose fat pads to reposition them to their original location by applying senolytic active ingredients that can decode the cells to achieve structural changes [2]. In this technique, there is no grafted adipose tissue, only reorganized adipose tissue. An observational, descriptive, longitudinal, and retrospective clinical case series was conducted, based on the review of medical records of patients treated with facial adipo-structuring between 2018 and 2024.

Methodology

An observational, descriptive, longitudinal, and retrospective clinical case series was conducted, based on data collected by the authors through the use of facial adipo-structuring over a 7-year period. The study period spanned from January 2018 to June 2024. The study population included 103 patients—both female and male—aged between 16 and 82 years, who sought treatment for aesthetic and/or functional concerns related to aging, and were treated with the facial adipo-structuring technique. Inclusion criteria were: patients over 16 years of age; diagnosis of facial aging, volume loss, deep support disorganization, or facial disproportions; signed informed consent for both treatment and academic-clinical use of their data; and at least one post-treatment follow-up evaluation. Exclusion criteria included: decompensated systemic diseases, coagulation disorders, active infections or open lesions in the facial area, lack of follow-up, or refusal to allow academic use of their case. All procedures were performed by the same practitioner under aseptic conditions in an authorized medical office.The facial adipo-structuring technique was applied, targeting compartment repositioning and treatment of interseptal tension zones. The treated areas included: temporal region, malar and zygomatic areas, periorbital region, nasolabial folds, jawline and chin, nose and lips (contouring and support), and submental fat pad. For each case, documentation included: the specific technique used per area, and whether it was combined with other therapies (e.g., laser, thread lifting, chemical peels, etc.). Standardized photographic records were taken at the following stages: before the procedure, immediately after, at 30 days, and during each subsequent follow-up (when available). A subjective patient satisfaction scale from 1 to 5 (GAIS) was applied. The practitioner also assessed outcomes based on clinical criteria such as: symmetry, natural appearance, and improvement of structural support. Adverse events were documented, including prolonged edema, bruising, irregularities, nodules, or partial resorption. The technique consisted of performing a fat paint, which is a facial drawing where the facial adipose panniculus is planned, as shown in Figure 1. The layout of the panniculopathic system must be drawn on the patient's face in order to provide a clear map of the panniculus to be treated (Figure 2). For this treatment, 22 G x 40 mm cannulas are used for adipose tissue and 27 G x 40 mm cannulas are used for intersepal spaces. These hair follicles are stimulated chemically and then treated with senolytic agents such as gotu kola, organic silicon, DMAE, and caffeine. Once all data were collected, a descriptive statistical analysis was conducted to report findings on: age and sex distribution, most frequently treated areas, average product volume used, satisfaction levels, and complication rates.

Results

Sex distribution. In this clinical case series of 103 patients treated with facial adipo-structuring between 2018 and 2024, the sex distribution was as follows: Female: 91 patients (88.35%), Male: 12 patients (11.65%). as shown in Graph 1. The predominance of female patients reflects the global trend in aesthetic medicine, where women represent the primary demographic seeking restorative and rejuvenating facial procedures. However, the 11.65% of male patients highlights the growing interest among men in minimally invasive techniques that preserve the natural appearance of the face without altering characteristic masculine features. This finding demonstrates that the facial adipo-structuring technique was effectively adapted to both genders, taking into account the anatomical and aesthetic differences specific to each. These results support the technique's versatility in achieving natural outcomes in both women and men, maintaining harmonious proportions aligned with each patient's facial identity.

Citation: Vegas G, Velazco G, Rodea S, Facial Adipo-Structuring as a Volumetric Restoration Strategy: Evaluation of 103 Cases over a Seven-Year Period: Case Report. Clin Surg, 2025; 5(1): 1007.

Copyright@ Velazco G

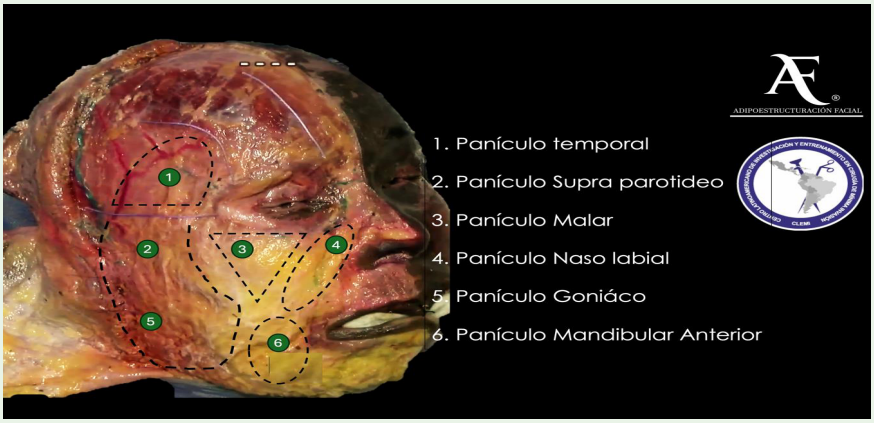
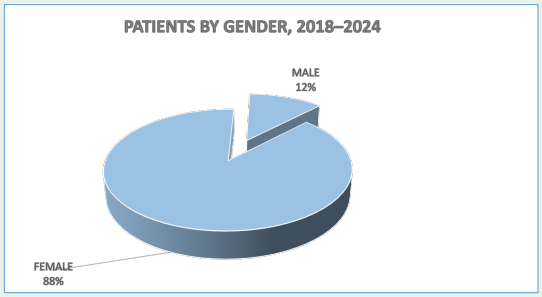


Figure 1: Disección superficial de cara para determinar la ubicación del sistema paniculopático del sistema graso. 1. Paniculo Temporal, 2. Paniculo Supra parotideo, 3. Paniculo Malar, 4. Panoiculo Naso labial, 5. Paniculo Goniaco, 6. Paniculo Mandibular Anterior. [3]

Figure 2: Marking of the paniculopathic system indicating the areas of natural insertion with the vectors in each of the panicles.



Graph 1: Percentage distribution by gender of patients included in the study: 88% were female and 12% were male.

Table 1 shows the age range distribution of the 103 patients treated with facial adipo-structuring, classified into eight age groups. The distribution was as follows: The largest proportion of patients (50.4%) were between 40 and 59 years old, reflecting a stage in life when structural facial aging becomes more apparent and patients seek volume restoration and support. A total of 25.2% were over 60 years old, demonstrating that the technique is also well tolerated and applicable in older populations. Notably, 26.2% of the patients were younger than 39, suggesting that adipo-structuring is used not only as a corrective measure, but also as a preventive or harmonizing strategy.

Table 2, Graph 2 shows the distribution of patients across the study period, with some undergoing up to five sessions. 53.4% of patients (more than half) underwent 2 or 3 sessions, reflecting a progressive treatment plan in phases or the need for structured adjustments according to therapeutic objectives. Only 24.3% received a single session, which may correspond to very localized cases, specific needs, or limited follow-up. 16.5% of patients underwent 4 or more sessions, suggesting structured long-term management, possibly in patients with advanced aging, multiple treated areas, or high adherence to the aesthetic plan. In Table 3 Graph 3, we can see the number of treatments applied by the operator over the 7 years of the study, with a total of 254 facial adipostructuring sessions on 103 patients, distributed according to the management of treated patients (Table 4, Graph 4). A total of 97.1% of patients reported no or mild pain (levels 0 to 2), with 39.8% experiencing no pain at all (level 0). Only 2.9% reported moderate pain (level 3), and no cases of severe pain (levels 4 or 5) were recorded—indicating excellent tolerability of the procedure. A Visual Analog Scale (VAS) was also used to assess the level of anxiety or discomfort perceived by patients during facial adipo-structuring (Table 5, Graph 5). A total of 97.1% of patients reported no or mild discomfort (levels 0 to 2), with no

Citation: Vegas G, Velazco G, Rodea S, Facial Adipo-Structuring as a Volumetric Restoration Strategy: Evaluation of 103 Cases over a Seven-Year Period: Case Report. Clin Surg, 2025; 5(1): 1007.

Copyright@ Velazco G

Table 1: Age distribution of patients included in the study

AGE RANGE	NUMBER	PERCENTAGE
Under 19 years	6	5,8
20 - 29 years	13	12,6
30 - 39 years	8	7,8
40 - 49 years	26	25,2
50 - 59 years	26	25,2
60 - 69 years	16	15,5
70 - 79 years	5	4,9
Over 80 years	3	2,9
Total	**103**	**100,0**

Table 2: Distribution of patients according to the number of sessions performed

SESSIONS	PATIENTS	PERCENTAGE
1 SESION	25	24,3
2 SESSIONS	30	29,1
3 SESSIONS	31	30,1
4 SESSIONS	9	8,7
5 SESSIONS	8	7,8
TOTAL	**103**	**100,0**

Table 3: Number of sessions per patient treated with AF

PAIN	PATIENT N°	PERCENTAGE
PAIN 0	41	39,8
PAIN 1	35	34,0
PAIN 2	24	23,3
PAIN 3	3	2,9
PAIN 4	0	0,0
PAIN 5	0	0,0
TOTAL	103	100,0

Table 4: Visual Analog Scale (VAS)

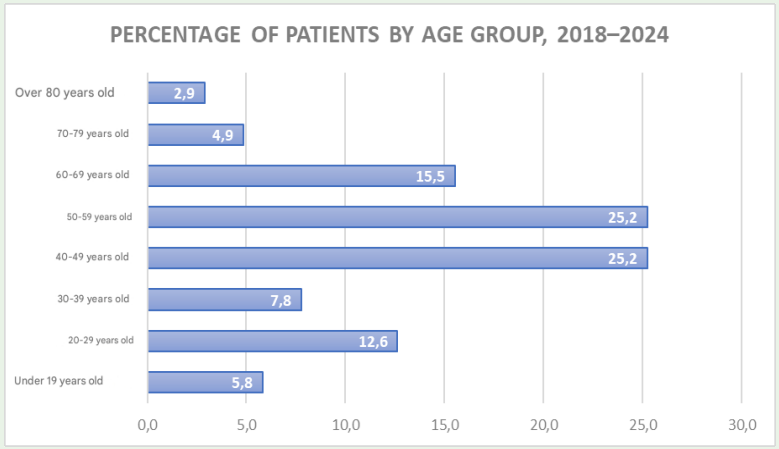
PAIN	PATIENT N°	PERCENTAGE
PAIN 0	41	39,8
PAIN 1	35	34,0
PAIN 2	24	23,3
PAIN 3	3	2,9
PAIN 4	0	0,0
PAIN 5	0	0,0
TOTAL	103	100,0

Table 5: Visual Analog Scale (VAS) Results by Evaluated Patient

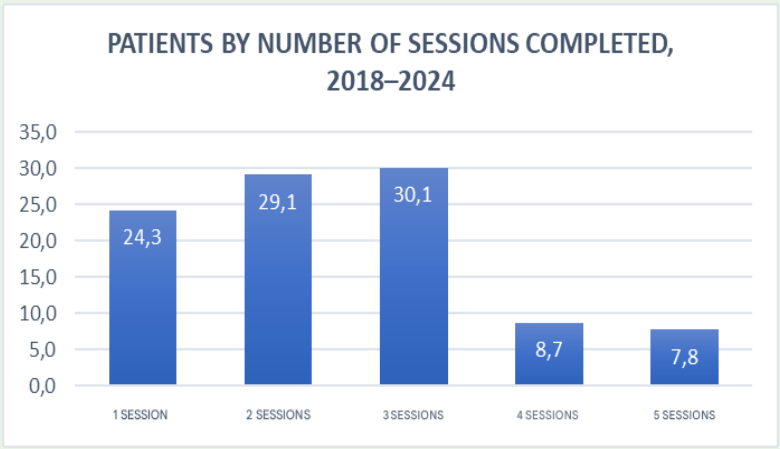
DISCONFORT	PATIENT N°	PERCENTAGE
LEVEL 0	30	29,1
LEVEL 1	46	44,7
LEVEL 2	24	23,3
LEVEL 3	3	2,9
LEVEL 4	0	0,0
LEVEL 5	0	0,0
TOTAL	103	100,0

Citation: Vegas G, Velazco G, Rodea S, Facial Adipo-Structuring as a Volumetric Restoration Strategy: Evaluation of 103 Cases over a Seven-Year Period: Case Report. Clin Surg, 2025; 5(1): 1007.

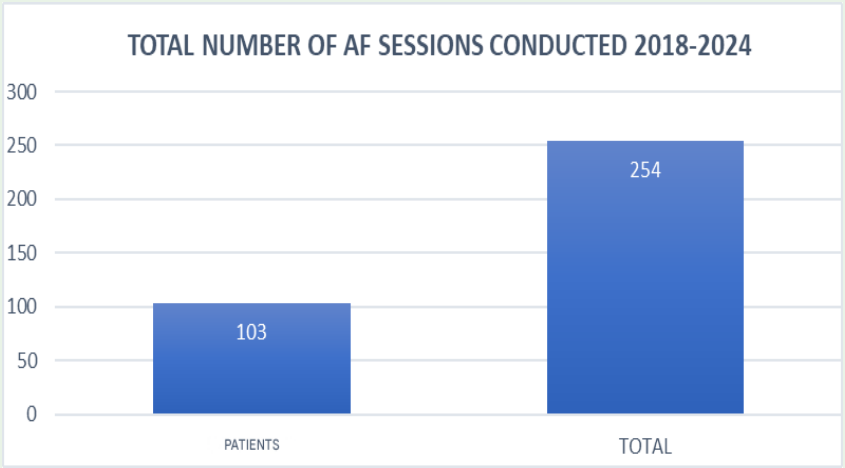
Copyright@ Velazco G



Graph 2: Percentage of patients by age group between 218-2024



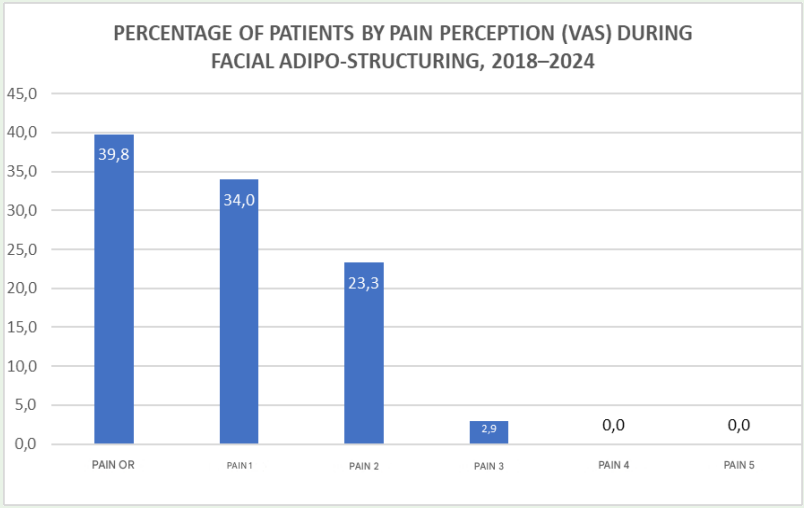
Graph 3: Percentage distribution of patients according to the number of facial adipo-structuring sessions completed between 2018 and 2024.



Graph 4: Percentage distribution of total AF sessions completed in the period from 2018 to 2024

Citation: Vegas G, Velazco G, Rodea S, Facial Adipo-Structuring as a Volumetric Restoration Strategy: Evaluation of 103 Cases over a Seven-Year Period: Case Report. Clin Surg, 2025; 5(1): 1007.

Copyright@ Velazco G



Graph 5: Percentage distribution of patients who reported pain according to the Visual Analog Scale (VAS) during facial adipo-structuring sessions completed between 2018 and 2024.

cases of severe discomfort (levels 4 or 5). Only 2.9% reported a moderate sensation (level 3). The most frequent local reactions observed after the procedure were evaluated and recorded during immediate and short-term follow-up. The results were as follows: (Table 6, Graph 6) Erythema was a universal (100%) and expected reaction, associated with minimal trauma from cannulas and tissue manipulation. It was self-limiting and mild in most cases. Edema was observed in nearly half of the patients (46.6%) and was also considered a common and transient inflammatory response typically seen in procedures involving autologous fat redistribution or deep tissue manipulation. Post-procedural local pain was infrequent (22.3%) and was not associated with VAS scores above level 3 in any case. No local infections were reported, which is highly significant and suggests proper asepsis-antisepsis protocols and appropriate technical handling. Post-treatment symptoms were also analyzed, as shown in Table 7, graph 7. Regarding tenderness, 100% of patients experienced some degree of post-procedural sensitivity. This is likely related to the normal local inflammatory response following treatment. It is important to clarify whether the tenderness was mild, moderate, or severe, and how long it lasted, as this influences the perception of tolerability. Favorable skin changes – 76.7%. A high and clinically significant percentage—8 out of 10 patients—showed visible improvement in skin quality, supporting a reparative or biostimulatory effect of the technique. Improvements may include enhanced elasticity, texture, firmness, or radiance, and should ideally be described based on the parameters used (whether objective measurements or clinical evaluation). Bruising – 64.08%. This is a relatively common side effect. In procedures involving manipulation of adipose and vascular tissue, this incidence is expected but moderately high. It would be ideal to report whether the bruising was mild, transient, or required

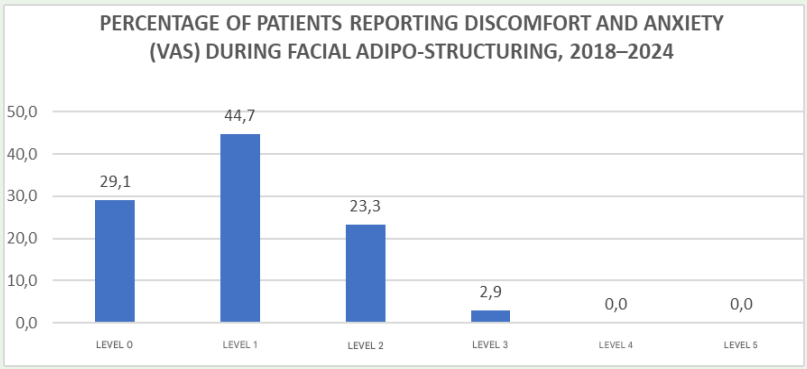
Table 6: Number of Local Reactions Observed in Treated Patients

LOCAL REACTIONS	NUMBER	PERCENTAGE
LOCAL PAIN	23	22,33
EDEMA	48	46,60
ERYTHEMA	103	100,00
LOCAL INFECTION	0	0,00

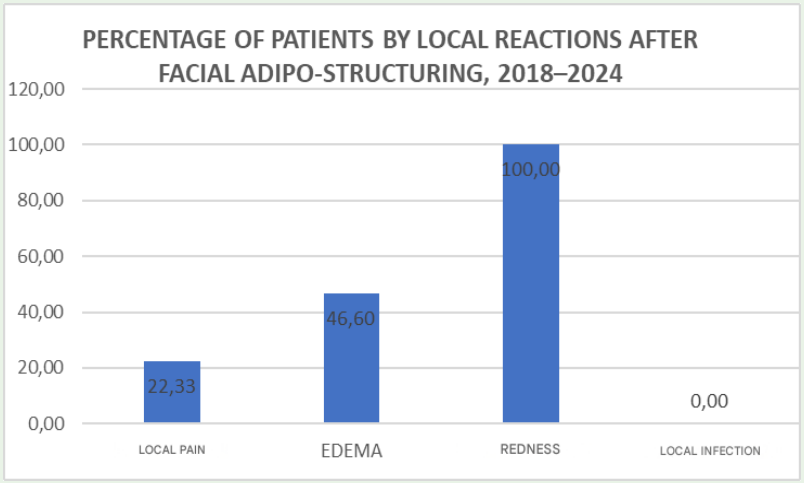
Table 7: Evaluation of Post-Treatment Signs Following Facial Adipo-structuring

SPECIFIC SYMPTOMS	NUMBER	PERCENTAGE
FAVORABLE SKIN CHANGES	79	76,70
TENDERNESS	103	100,00
BRUISING	66	64,08

Citation: Vegas G, Velazco G, Rodea S, Facial Adipo-Structuring as a Volumetric Restoration Strategy: Evaluation of 103 Cases over a Seven-Year Period: Case Report. Clin Surg, 2025; 5(1): 1007.



Graph 6: Percentage of patients according to their perception of discomfort and anxiety based on the Visual Analog Scale (VAS) during facial adipo-structuring treatments between 2018 and 2024.



Graph 7: Percentage of patients by local reactions following facial adipo-structuring procedures, 2018–2024.

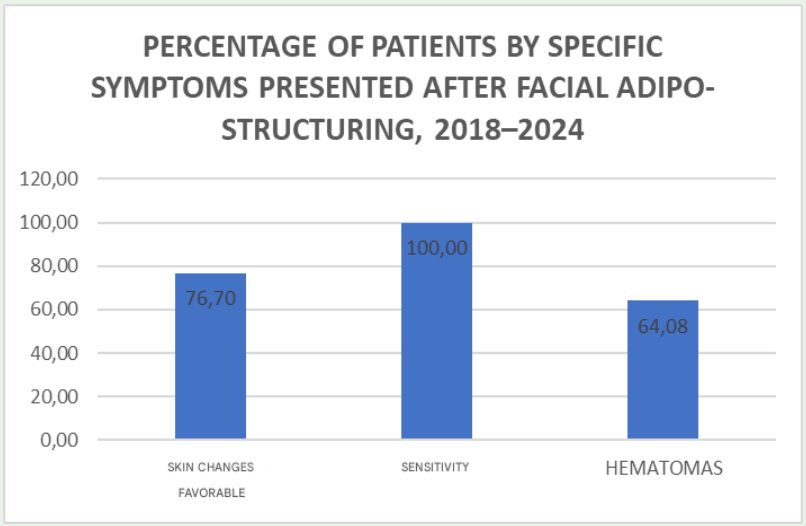
any intervention. In this cohort of 103 patients treated with facial adipo-structuring, a high prevalence of post-procedural tenderness (100%) was observed, which may be considered an expected and transient effect. Additionally, 76.7% of patients exhibited favorable skin changes, supporting the biostimulatory potential of the treatment. However, a bruising rate of 64.08% was reported, indicating a notable frequency of this adverse event—although expected in procedures of this kind. These findings support the clinical efficacy of the technique, with an acceptable tolerance profile. GAISc Scale Distribution. The Global Aesthetic Improvement Scale—clinical version (GAISc) was used to evaluate the perception of overall aesthetic improvement. This is a subjective yet standardized tool commonly used to assess outcomes in aesthetic procedures, as shown in Table 8, Graph 8,9. Positive outcomes (Scores 1 and 2): A total of 84.5% of patients (87 individuals) reported a notable aesthetic improvement (rated as "excellent" or "very much improved"). This reflects a high degree of clinical effectiveness of the facial adipo-structuring technique in terms of visible or palpable aesthetic satisfaction. Moderate outcome (Score 3): 15.5% of patients reported only mild improvement. While still positive, this may reflect: Higher expectations that were not fully met, lower treatment response (possibly due to age, skin type, treated area, etc.), shorter follow-up periods (patients may require more time to observe further improvement)

No worsening or negative outcomes (Scores 4 and 5): 0% of patients reported "no change" or "worsening," which is both statistically and clinically excellent, supporting the safety and consistency of the procedure.

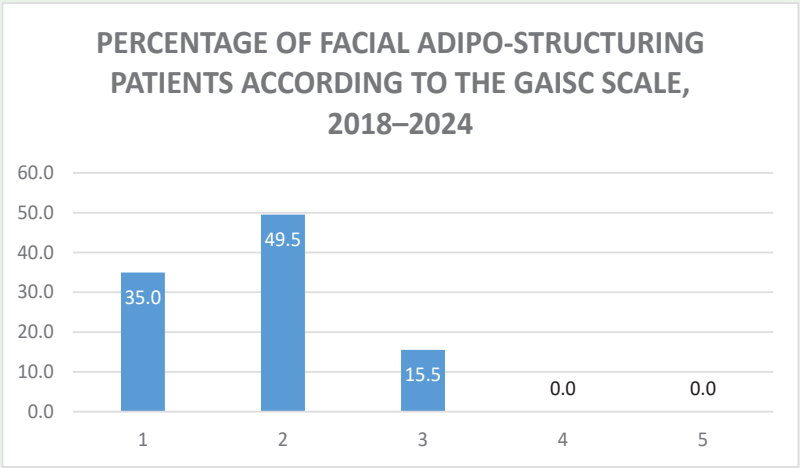
Discussion

The long-term results presented in this study, supported by years of clinical follow-up, demonstrate that adherence to proper technique parameters ensures successful outcomes. A total of 103 subjects were evaluated over a seven-year period, confirming both the safety and efficacy of facial adipo-structuring, as reported in similar studies [2-5]. Overall, approximately 90% of cases yielded beneficial results, underscoring the importance

Citation: Vegas G, Velazco G, Rodea S, Facial Adipo-Structuring as a Volumetric Restoration Strategy: Evaluation of 103 Cases over a Seven-Year Period: Case Report. Clin Surg, 2025; 5(1): 1007.



Graph 8: Percentage of patients by specific symptoms presented after facial adipo-structuring, 2018–2024.



Graph 9: Percentage of patients treated with facial adipo-structuring according to the GAISc scale, 2018–2024..

Table 8: Distribution of the GAISc Scale

PUNTUATION	NUMBER	PERCENTAGE
1	36	35,0
2	51	49,5
3	16	15,5
4	0	0,0
5	0	0,0
	103	100,0

of mastering the technique—an essential point consistently emphasized to practitioners [1]. The outcomes in terms of patient satisfaction and skin improvement align with previous studies [6], reinforcing the role of adipose tissue as a central element in facial rejuvenation strategies.

In this cohort, 84.5% of patients demonstrated significant aesthetic improvement according to the GAISc scale, with 35% reporting "excellent improvement" and 49.5% "very much improved." The remaining 15.5% experienced mild improvement, and no patients reported worsening or lack of change—further supporting the clinical effectiveness and positive perception of the treatment, consistent with existing literature [3]. The facial adipo-structuring technique shows an excellent safety profile, with only mild, transient, and manageable local side effects. The

Citation: Vegas G, Velazco G, Rodea S, Facial Adipo-Structuring as a Volumetric Restoration Strategy: Evaluation of 103 Cases over a Seven-Year Period: Case Report. Clin Surg, 2025; 5(1): 1007.

absence of infections and the low incidence of post-procedural pain position it as a safe and well-tolerated technique [5]. Furthermore, patient tolerance was high, with minimal reports of anxiety or discomfort during the procedure. These results support the clinical acceptability and comfort of the patient as a notable strength of the adipo-structuring protocol [4].

Facial adipo-structuring also demonstrates itself to be a modulable and progressive technique, with a high rate of continuity. Most patients required more than one session, validating its role in stepwise protocols with dynamic adjustments based on clinical response and individual expectations [4,5].

The aesthetic results obtained in patients were very favorable, as they regained a very natural and rejuvenated appearance, as can be seen in Figures 3, 4, and 5.

Figure 3: 16-year-old female patient before and figure 3.b after facial adipostructure treatment.

Figure 4: 60-year-old male patient before and 4b. after facial adipostructure treatment.

Citation: Vegas G, Velazco G, Rodea S, Facial Adipo-Structuring as a Volumetric Restoration Strategy: Evaluation of 103 Cases over a Seven-Year Period: Case Report. Clin Surg, 2025; 5(1): 1007.

Copyright@ Velazco G

Figure 5: 40-year-old female patient before and 5b. after facial adipostructure treatment.

Conclusion

The adipo-structuring technique proved to be highly effective, safe, and well tolerated in a diverse patient sample, ranging from young adults to older individuals. Its adaptability across age, sex, and number of sessions allows it to be tailored to various clinical and aesthetic goals, including volumetric restoration, facial harmonization, and prevention of structural aging. The adverse effect profile was mild and predictable, with no serious complications such as infections or severe pain—further reinforcing its strong safety profile. Patient perception was highly favorable, with over 84% reporting noticeable aesthetic improvements, validating its application in advanced facial rejuvenation and personalized aesthetic planning. Facial adipo-structuring was shown to be safe, well tolerated, and associated with high satisfaction levels across a broad age range. These results suggest it is an effective tool for comprehensive facial rejuvenation. Additionally, the technique was highly tolerated in terms of pain, demonstrating that the combination of technical approach and analgesic strategy ensures clinical comfort and encourages treatment continuity and repeat sessions among patients.

References

1. Wu S, Coombs DM, Gurunian R. Liposuction: Concepts, safety, and techniques in body-contouring surgery. Cleve Clin J Med. 2020; 87: 367-375.
2. Velazco G. Adipoestructuracion Facial Acta Bioclinica. 2020; 10: 25-46
3. Velazco Gladys. Adipoestructuracion . Rejuvenecimiento Inteligente. ISNB 9766280155647
4. Garcia-Guevara Víctor; Velazco Viloria Gladys. Evaluando la eficacia y seguridad de la técnica de adipoestructuración facial: a propósito de una serie de casos. Acta Bioclínica. 2023; 13: 56-71.
5. Ibarra Loreto; Camacho Ricardo. Adipoestructuración facial: una nueva herramienta para la armonización orofacial. Secuencia de casos. Acta Bioclínica. 2023; 13: 95-115.
6. Velazco Viloria G, Sequera Azuaje M, Rodea Hernández S. Multicenter clinical trial to evaluate the efficacy and safety of the facial adipo-structuring technique. Recent Adv Clin Trials. 2025; 5: 1-4.
7. Mizukoshi K, Kurosumi M, Hamanaka Y. Age-related changes in the fiber structure around adipocytes in the subcutaneous fat layer and their association with skin viscoelasticity. Skin Res Technol. 2024; 30: e13566.
8. Ou MY, Zhang H, Tan PC, Zhou SB, Li QF. Adipose tissue aging: mechanisms and therapeutic implications. Signal Transduct Target Ther. 2023; 8: 58.
9. Nguyen HP, Lin F, Yi D, Xie Y, Dinh J, Xue P, Sul HS. Aging-dependent regulatory cells emerge in subcutaneous fat to inhibit adipogenesis. Dev Cell. 2021; 56: 995-1007
10. Narins RS, Carruthers JD, Flynn TC, et al. Validating the Global Aesthetic Improvement Scale (GAIS) in a clinical trial setting. Dermatol Surg. 2003; 29: 463-467.
11. Kim S, Lee HJ, Kim J, et al. Patient-reported outcome measures and diaries in dermatology clinical trials: A review. J Dermatol Treat. 2019; 30 : 715-721.
12. Hawker GA, Mian S, Kendzerska T, French M. Measures of adult pain: Visual Analog Scale for Pain (VAS Pain), Numeric Rating Scale for Pain (NRS Pain), McGill Pain Questionnaire (MPQ), Short-Form McGill Pain Questionnaire (SF-MPQ), Chronic Pain Grade Scale (CPGS), Short Form-36 Bodily Pain Scale (SF-36 BPS), and Measure of Intermittent and Constant Osteoarthritis Pain (ICOAP). Arthritis Care Res (Hoboken). 2011; 63: S240-252.
13. de la Guardia C, Virno A, Musumeci M, Bernardin A, Silberberg MB. Rheologic and Physicochemical Characteristics of Hyaluronic Acid Fillers: Overview and Relationship to Product Performance. Facial Plast Surg. 2022; 38: 116-123.

Citation: Vegas G, Velazco G, Rodea S, Facial Adipo-Structuring as a Volumetric Restoration Strategy: Evaluation of 103 Cases over a Seven-Year Period: Case Report. Clin Surg, 2025; 5(1): 1007.