v. 2, n. 45, 2022

International Journal of Health Science

EVOLUTION OF 3S TECHNIQUE TO MODIFIED FULL FACE 3S

Ana Carolina Nogueira Bietinez Basile
https://orcid.org/.0000-0003-0354-8947

Helena BittarAbrantes
https://orcid.org/.0000-0002-4236-2443

ABSTRACT: Less invasive facial harmonization procedures that offer low morbidity and rapid recovery after their performance have been increasingly sought after by patients as an alternative to conventional surgical techniques. Facial aging has a significant effect on tissue characteristics, evidencing sagging and loss of pronounced volume in the middle and lower thirds of the face. The principles of the 3S technique were based on suspension, support and smoothing with the aim of volumizing and restoring lost support and facial contour, promoting a lifting effect. The use of botulinum toxin type A promotes muscle reprogramming and favors tissue support with the installation of polydioxanone threads. The smoothing of the middle and lower thirds of the face is performed with the application of medium crosslinking hyaluronic acid. Clinical practice has been following the evolution of products according to the growing market demand. Consequently, the adaptations of the techniques need to be described according to their bases to enable their dissemination. The scientific evolution of harmonization protocols depends on complete reports of the diagnosis, involving the patient's complaint, the choice of products used and the recording of results compared to the level of satisfaction obtained from patients. This study aims to report and compare two clinical cases treated with the principles of the 3S protocol, describing in detail the evolution of the 3S Face Upright Technique to the Modified 3S Full Face Technique. Both clinical cases describe patients with volume deficiency and midface ptosis, submitted to the modified 3S and 3S technique protocol. Understanding the changes in protocols, indications and contraindications, as well as the applicability of the technique is of extreme scientific importance for the safe practice of facial harmonization treatments.

Keywords: Facial Harmonization. Polydioxanone. 3S verticalization technique.

INTRODUCTION

Facial aging differs in relation to several factors such as quality of life, age and ethnicity. It involves three-dimensionally the anatomical structures, affecting texture and facial shape that suffer from gravitational effects. Changes in soft tissues such as fat, muscle and skin result in atrophies that lead to the appearance of wrinkles. These effects often affect patients' self-perception and can be delayed with the use of appropriate clinical treatments (NKENGNE; BERTIN, 2013). The complex processes that promote changes in the face over time contribute to soft tissue ptosis and an aged appearance. Understanding the aging process and the characteristics that this transformation entails is essential to develop the skills necessary to properly treat patients who seek the various rejuvenation techniques (KIM; CHOI; LEE, 2015).

Facial rejuvenation techniques seek to restructure and harmonize dystonias brought by time through less invasive procedures, increasingly popular that offer a low morbidity rate with results compared to conventional surgical techniques. Although it is necessary to understand the complexity and longevity of facial wire suspension procedures, these products are increasingly in clinical and scientific evidence (ATIYEH; CHAHINE; GHANEM, 2021).

Complex cases, integrating the combined use of biomaterials in facial harmonization, require targeted techniques that restore balanced proportions to the face. The 3S face verticalization technique starts with a thorough analysis of the patient's face to visualize the disharmonies caused by the effect of aging, promoting rejuvenation in a predictable and safe way (BASILE *et al.*, 2019).

The modified 3S protocol proposes to promote these changes efficiently, recovering

patients' self-esteem following the same principles of the original technique of suspension, support and softening through the combination of the use of botulinum toxin type A, polydioxanone (PDO) threads. and application of medium crosslinking hyaluronic acid.

Understanding the applicability of the facial lifting technique with threads, advantages and disadvantages is part of the scientific protocols for the development and evolution of aesthetic, repairing and rehabilitative treatments (HALEPAS; CHEN; FERNEINI, 2020).

CASE REPORT 1 - 3S FACE VERTICALIZATION TECHNIQUE

Abec clinic in São Paulo (Ana Basile Educação Continuada), complaining of tiredness, dark circles under the eyes and a feeling of drooping face. It was selected for treatment with the original 3S technique. Initial photos were taken and her treatment plan outlined.

Figure 1 - Initial photographs, right side (A), front (B), ¾ right side (C).

Source: BASIL; JORGE; VALENCIA, 2021.

Botulinum toxin in a 2:1 dilution was used to promote relaxation of the platysma muscle in the medial and lateral bands, distributed in 6 points with application of 1 unit of botulinum toxin in papule. Figure 2 describes the marking of the path of the bands in blue dotted lines.

Figure 2 - Marking of botulinum toxin application points on the medial and lateral bands of the platysma muscle.

Source: BASIL; JORGE; VALENCIA, 2021.

In sequence, fifteen days after botulinum toxin application, in the suspension step, 3 19G spiculated PDO threads, 100mm x 160mm, were inserted on each side of the patient's face, at points 1, 3 and 4 of the technique. The wire insertion plane is described in figure 3, it was performed at 40 degrees and the slide at 10 degrees.

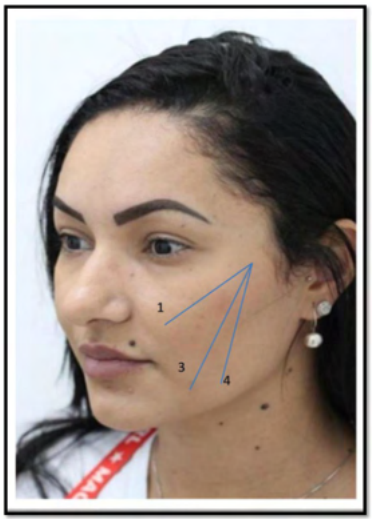

Figure 3 - Marking the points of origin and insertion trajectory 1, 3, 4 of the PDO wires in the 3S technique.

Source: BASIL; JORGE; VALENCIA, 2021.

In the third stage, smoothing, after fifteen days, 2 syringes of medium cross -linking hyaluronic acid were used, with 1 syringe per side on the malar and zygomaticus, retro -applied with a 22G cannula, according to the diagrams in figure 4. At each point of the infraorbital region, 0.1 ml of hyaluronic acid was deposited; in each of the 5 lines of the zygomatic area, a retroapplication of 0.1 ml of the same material was performed.

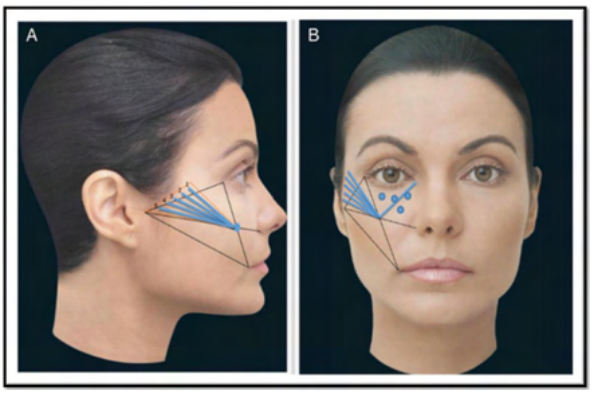

Figure 4 - Marking of filling lines in the zygomatic region (A), and areas to be filled in in the infraorbital and zygomatic regions (B).

Source: BASIL; JORGE; VALENCIA, 2021.

This patient underwent another consultation to complete the third stage of treatment, after fifteen days, with the use of another 1 syringe of hyaluronic acid. In total, 3 syringes of medium crosslinking hyaluronic acid were used for facial restructuring. 1 syringe was applied to the labial commissure locks with needle, as shown in figure 5. Retroapplication of 0.1 ml in each row of the commissure locks and 0.05 ml in each row of the eyebrow locks. Final photos were recorded 3 months after the end of the treatment, as shown in figure 6.

Figure 5 - Description for the application of hyaluronic acid in the Modiolus and eyebrow locks, the direction of the arrows indicating the insertion and retroapplication.

Source: BASIL; JORGE; VALENCIA, 2021.

Figure 6 - Final photographs, ¾ left side (C), front (B), ¾ right side (A).

Source: BASIL; JORGE; VALENCIA, 2021.

CASE REPORT 2 - MODIFIED 3S FULL FACE

Abec clinic in São Paulo (Ana Basile Educação Continuada), in search of aesthetic treatment for facial harmonization. She was selected after reporting the presence of dark circles, a feeling of sunken face and a drooping face. Initial photographs were recorded as shown in figure 7.

Figure 7 - Initial photographs, right side (A), front (B), ¾ right side (C).

Source: BASIL; JORGE; VALENCIA, 2021.

The treatment plan was developed using the modified 3S protocol. The first suspension step was performed with the application of botulinum toxin type A in 2:1 dilution, in papules to interrupt the maximum peak of response of the platysma muscle endplate. Essential in this technique, so that the traction given by the polydioxanone (PDO) threads results in effective suspension. Application was performed in medial and lateral bands, distributed in 12 points with application of 1 unit, for each side of the face according to the scheme described in figure 8.

Figure 8 - Marking of botulinum toxin application points on the medial and lateral bands of the platysma muscle.

Source: BASIL; JORGE; VALENCIA, 2021.

The second stage of the treatment, performed 20 days after the application of the toxin, consisted of supporting the tissues with repositioning, using polydioxanone threads. The reference lines for marking and performing the technique were sequentially developed according to figures 9, 10 and 11.

Figure 9 - Marking the points for making the reference lines of the Modified 3S Technique.

Source: BASIL; JORGE; VALENCIA, 2021.

Line	Description of references for marking
A ●	Starts at the end of the distal portion of the eyebrow and ends at the tragus
B ●	Starts at the base of the nose and ends at the commissure of the upper lip
C ●	Starts at the commissure of the lower lip and ends at the base of the mandible
D ●	Starts at the base of the mandible below line C and ends at the end of the distal portion of jaws

Table 1 – Description of the 3S Technique reference lines.

Source: the authors.

Line A received 3 specific markings to indicate the beginning of the path of each of the 3 groups of wires. The point measurements were described in table 2 and can be seen in figure 10.

Figure 10 - Marking of the 3 insertion points of PDO wires in line A. Point 3 (D), point 1 (E) and point 2 (F).

Source: BASIL; JORGE; VALENCIA, 2021.

Figure 11 - Marking of reference points (4, 5 and 6) of the limit of insertion of PDO wires in lines B, C and D.

Source: BASIL; JORGE; VALENCIA, 2021.

Line	Description of references for marking
1 ●	Midpoint between point 3 and start of line 1
2 ●	Midpoint between point 1 and 3
3 ●	Line A center point
4 ●	Midpoint between point 5 and the beginning of line B
5 ●	C-line center point
6 ●	Midpoint between point 6 and the end of line D

Table 2 – Point marking references for 3S Technique.

Source: BASIL; JORGE; VALENCIA, 2021.

Nine 19G spiculated PDO wires, 100mm x 160mm, were used, as shown in Table 3, on each side of the face, as shown in figure 12. The wire insertion plane was at 40 degrees and the slide at 10 degrees.

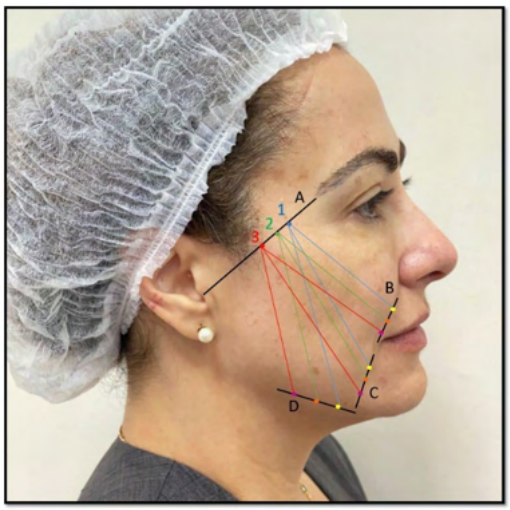

Figure 12 – Indication of the points of origin and insertion trajectory of the PDO wires in the Modified 3S Technique.

Source: BASIL; JORGE; VALENCIA, 2021.

Line	Description of references for wire insertion
1AB ● ●	Insertion of the cannula occurs at point 1 of line A and goes to point 4 of line B
1AC ● ●	Insertion of the cannula occurs at point 1 of line A and goes to point 4 of line C
1AD ● ●	Insertion of the cannula occurs at point 1 of line A and goes to point 4 of line D
2AB ● ●	Insertion of the cannula occurs at point 2 of line A and goes to point 5 of line B
2AC ● ●	Insertion of the cannula occurs at point 2 of line A and goes to point 5 of line C
2AD ● ●	Insertion of the cannula occurs at point 2 of line A and goes to point 5 of line D
3AB ● ●	Insertion of the cannula occurs at point 3 of line A and goes to point 6 of line B
3AC ● ●	Insertion of the cannula occurs at point 3 of line A and goes to point 6 of line C
3AD ● ●	Insertion of the cannula occurs at point 3 of line A and goes to point 6 of line D

Table 3 - Description of the path for the application of 3S Technique wires.

Source: BASIL; JORGE; VALENCIA, 2021.

The third stage, smoothing, consisted of the application of medium crosslinking hyaluronic acid for filling and subcutaneous leveling of the face. 2 ml of hyaluronic acid were used, retro -applied with a 22G cannula, according to figure 13. At each point in the infraorbital region, 0.1 ml of hyaluronic acid was deposited. Reference lines for filling were described according to Table 4. In each of the lines of the zygomatic (G) and lacrimal (H) areas, 0.1 ml of the same material was applied back. Final photos were recorded immediately after the execution of the third step of the protocol, as shown in figure 14.

Figure 13 - Marking of the filling lines in the zygomatic region (line G), and areas to be filled in the tear troughs (line H) and infraorbital regions (E).

Source: BASIL; JORGE; VALENCIA, 2021.

Line	Description of references for marking
E	It starts at the eye commissure and ends at the labial commissure
F	Starts at the base of the nose and ends at the tragus
G ●	Perpendicular the insertion of the E and F lines towards the malar
H	Lacrimal duct contour

Table 4 – Description of references for application of hyaluronic acid in the 3S Technique.

Source: BASI; JORGE; VALENCIA, 2021.

Figure 14 - Final photographs, right side (F), front (G), ¾ right side (H).

Source: BASIL; JORGE; VALENCIA, 2021.

DISCUSSION

Evidence that the 3S technique is safe, has a low morbidity rate and a high degree of satisfaction for harmonizing and restructuring the face has been described and is in agreement with the results obtained in both case reports (BASILE *et al.*, 2019). Small details were modified during the evolution and adaptation of the 3S Technique by being transformed into the Modified 3S Full Face Technique. In the suspension stage, they increased the botulinum toxin application points and redistributed it, extending it to the base of its uppermost insertion next to the base of the mandible, as can be seen in figure 15.

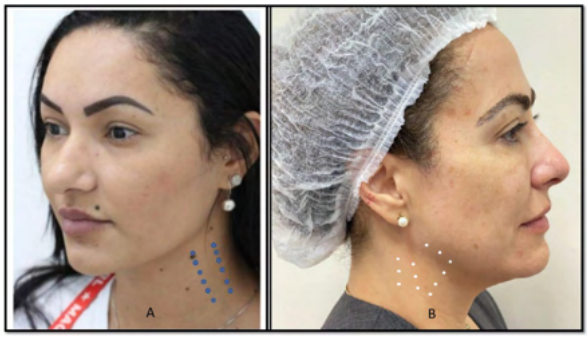

Figure 15 - Marking of botulinum toxin application points on the medial and lateral bands of the platysma muscle.

Source: BASIL; JORGE; VALENCA, 2021; adapted by the authors.

In figure A, only 6 points were distributed along the anatomical region of the muscle

bands. In figure B, the stitches were redistributed along the plexus and extended to their superior anterior insertion at the base of the mandible. The amount of points also doubled, to 12 units.

The suspension step also had a significant increase in the number of threads used comparing the classic technique with the modified one. The reference lines were also adapted as shown in figure 16.

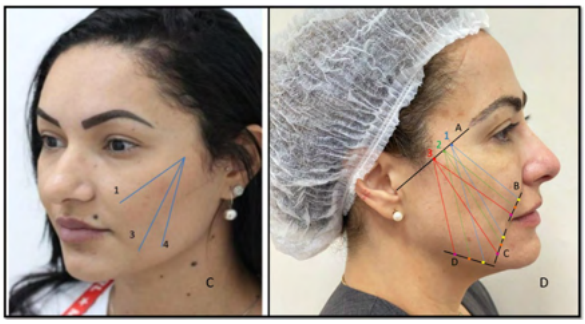

Figure 16 - Indication of the points of origin and insertion trajectory of the PDO wires in the 3S Face Verticalization Technique (C) and in the Modified 3S Full Face Technique (D).

Source: BASIL; JORGE; VALENCA, 2021; adapted by the authors.

The last step of the protocols, smoothing, did not undergo major changes, since the need for volumizing the face is completely individualized. The detail that diverged between the treated cases is that in the conventional technique, the malar region was demarcated with several lines to be filled with retroinjection of hyaluronic acid. In the modified protocol, only one reference line was drawn and filled in as shown in figure 17.

Figure 17 - Marking of the fill lines used in the smoothing step in the 3S Face Verticalization Treatment Protocol (E) and 3S Modified Full Face (F).

Source: BASIL; JORGE; VALENCA, 2021; adapted by the authors.

Applicability of the products that make up the 3S technique protocol (botulinum toxin, polydioxanone threads and hyaluronic acid), prove that the modified technique is safe and universally practicable, provided that the potential and indication of the products are understood (YONGTRAKUL; SIRITHANABADEEKUL; SIRIPHAN, 2016). It is of extreme scientific importance to report in detail the concepts that supported the treatment of successful facial harmonization to promote its replication and evolution. Evaluating long-term patients and their level of satisfaction with the treatment result allows the development of protocols for the evolution of usual practices, as was the case with the 3S Technique.

CONCLUSION

The Modified 3S Full Face Technique treatment protocol is an evolution of the 3S Verticalization Technique. It respects the indications of each product, which in combination resulted in a visually satisfactory facelift effect, also reported by the patient.

REFERENCES

ATIYEH, B. S.; CHAHINE, F.; GHANEM, O. A. Percutaneous Thread Lift Facial Rejuvenation: Literature Review and Evidence-Based Analysis. **Aesthetic Plastic Surgery**, v. 45, p. 1540-1550, 2021.

BASILE, A. C. B. *et al*. Técnica 3S de verticalização da face. **Revista Face**, v. 1, n. 3, p. 308-316, 2019.

BASILE, A. C. B.; JORGE, W. V. D.; VALENÇA, A. R. S. Técnica 3S na Verticalização da Face: Relatos de Caso Clínico. **Revista Hof News**. v. 2, n. 2, p. 29 – 41, 2021.

BASILE, A. C. B.; RIZZATTI, C. M.; ABRANTES, H. B.; SUGAYAMA, S. T. Técnica 3S Full Face Modificada: Relato de Caso. **Revista SBTI.** v. 3, n. 3, p. 67, 2021.

HALEPAS, S.; CHEN, X.J.; FERNEINI, E.M. Thread-Lift Sutures: Anatomy, Technique, and Review of Current Literature. **J Oral Maxillofac Surg** 78:813-820, 2020.

JUNG, G.S.; SONG, H. An innovative form, scaffold type of thread lift: its satisfactory performance and safety. **Hong Kong J. Dermatol. Venereol**. (2019) 27, 121-126.

KIM, B. J.; CHOI, J. H.; LEE, Y. Development of facial rejuvenation procedures: Thirty years of clinical experience with face lifts. **Archives of PlasticSurgery**, v. 42, n. 5, p. 521-531, 2015.

NKENGNE, A.; BERTIN, C. Aging and facial changes documenting clinical signs, part 1: clinical changes of the aging face. **Skinmed**2013; 11: 281–6.

YONGTRAKUL, P.; SIRITHANABADEEKUL, P.; SIRIPHAN, P. Thread Lift: Classification, Technique, and How to Approach to the Patient. **InternationalScholarlyandScientificResearch&Innovation**10(12) 2016.