

# Nonsurgical Rhinoplasty: A Modified Rino-4-Puntos Technique With Hyaluronic Acid Improves the Appearance of Nasal Septal Deviation

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**Background:** Recently, we introduced the Rino-4-Puntos (R4P) nonsurgical rhinoplasty technique using hyaluronic acid (HA), which effectively addresses nose shape issues. However, no nonsurgical rhinoplasty procedure has been explicitly tested for improving the appearance of nasal septal deviation (NSD). This study aimed to evaluate the aesthetic outcome, longevity of results, safety, and patient satisfaction of the modified R4P (mR4P) technique, designed to address nose shape issues related to NSD.

**Methods:** This was a retrospective study of consecutive patients treated with mR4P. NSD is the leading cause of displeasing aesthetics. The R4P technique involves targeted injections with an intermediate G prime (G') HA at the radix (point 1), supratip (point 2), and tip (point 3), and high G' HA at the columella (point 4). To specifically address nose shape issues caused by NSD, modifications were made to points 4.2 and 4.3 of the technique. At these points, the needle insertion point was repositioned to the side of deviation. Then, the needle was directed diagonally opposite the deviation toward the nasal tip.

**Results:** Eighty individuals (68.7% women) were included. The procedure is suitable for mild-to-moderate caudal NSD, including I- and C-shaped NSDs. Notably, 87.5% of the participants were very satisfied and 12.5% were satisfied with the aesthetic outcome. Most (81.2%) patients reported respiratory improvements after mR4P. The treatment effect lasted for a median of 11 months. No vascular complications occurred.

**Conclusions:** The mR4P technique improves the appearance of caudal NSD and provides good longevity of the aesthetic outcomes and safety. (*Plast Reconstr Surg Glob Open* 2025;13:e6801; doi: [10.1097/GOX.00000000000006801](https://doi.org/10.1097/GOX.00000000000006801); Published online 23 May 2025.)

## INTRODUCTION

Nonsurgical rhinoplasty (NSR) utilizes a hyaluronic acid (HA) filler to correct nose contour deficiencies and irregularities.<sup>1–3</sup> It is a straightforward and quick procedure that does not require local anesthesia and allows for immediate recovery with minimal downtime.<sup>4</sup> This

procedure suits individuals with mild cosmetic concerns or who want to enhance their nasal appearance without surgery.<sup>1</sup> Despite its growing popularity, NSR with HA has not yet received approval from the US Food and Drug Administration. Recently, we introduced the Rino-4-Puntos (R4P) NSR technique, which has been designed to significantly enhance aesthetic outcomes and effectively address nose shape issues.<sup>3</sup>

It is worth noting that most of the population exhibits some degree of nasal septal deviation (NSD),<sup>5</sup> with prevalence rates as high as 86.6% when assessed using cone-beam computed tomography.<sup>6</sup> Although septal surgery for NSD is recognized as superior and more effective than nonsurgical interventions, many patients with

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mild-to-moderate NSD choose nonsurgical treatment as an option.<sup>7</sup> However, no NSR studies have focused on the aesthetic enhancement of NSD. This study introduced a modified R4P (mR4P) NSR technique specifically designed to improve the aesthetics of NSD while ensuring strict safety standards are maintained. We thoroughly evaluated the aesthetic outcome, longevity of results, and safety of the innovative mR4P technique, and assessed patient satisfaction.

## METHODS

### Patients

This retrospective study included consecutive individuals who underwent the mR4P procedure in the authors' practices between January 2023 and January 2024. The main reason for seeking rhinoplasty consultations was aesthetic improvement of the profile.

### Eligibility Criteria

We included patients seeking aesthetic improvement in their profile for whom NSD was the leading cause of displeasing aesthetics. The diagnosis of NSD was made based on information gathered from the patient's history, symptoms, and physical examination. Rhinoscopy was performed by an ENT provider if the diagnosis needed confirmation. We selected patients with mild or moderate NSD (nasal septal angle <15 degrees)<sup>8</sup> and a minimum follow-up postprocedure of 8 months. We focused on low (caudal) deviations and excluded high (cephalic), middle of the nose (middle), and combined (S-shaped) deviations. An S-shaped deviation involves a caudal deviation to one side and a cephalic deviation to the opposite side.<sup>9,10</sup> Patients with high (cephalic) and middle nose deviations were excluded because improving such deviation requires injections into high vascular risk areas on the lateral aspects of the dorsum.

### Counseling

During counseling, we informed patients that our technique focused on adjusting the soft tissue to bring it toward the midline rather than correcting the nasal cartilage and bone. We have specified that this NSR technique is not a replacement for surgery.

### Fillers and Instruments

Fillers with high elastic modulus ( $G$  prime,  $G'$ ) were used in the columellar injections, consistent with the approach used in the R4P procedure.<sup>3</sup> These high  $G'$  HA gels are characterized by high sturdiness, cohesivity, and low hydrophilicity,<sup>11</sup> which allow for more projection and less spread of the filler material. High  $G'$  fillers included Belotero Volume+, Merz (26mg/mL HA,  $G' = 438$ ), Juvéderm Voluma with lidocaine, Allergan (20mg/mL HA,  $G' = 398$ ), and Restylane Lyft (20mg/mL HA,  $G' = 977$ ).<sup>11</sup> The injections were performed using a 27G, 13-mm needle. In our experience, thick and viscous HA gels, such as those used in R4P, are injected more effectively with 27G needles than with 30G needles, as they do not flow well in the latter. In addition, a needle provides greater

## Takeaways

**Question:** Can nonsurgical rhinoplasty with hyaluronic acid improve the appearance of nasal septal deviation (NSD)?

**Findings:** This study evaluated the aesthetic outcomes, longevity of results, safety, and patient satisfaction associated with the modified Rino-4-Puntos nonsurgical rhinoplasty technique, designed to address nose shape issues caused by NSD. The procedure is suitable for mild-to-moderate caudal NSD and has resulted in high patient satisfaction. No vascular complications occurred. The treatment effect lasted for a median of 11 months.

**Meaning:** The modified Rino-4-Puntos technique improves the appearance of caudal NSD and provides good longevity of the aesthetic outcomes and safety.

precision in the plane and volume of product deposited than a cannula does. Magacho-Vieira and Santana<sup>12</sup> reported 2 cases of skin necrosis and blindness associated with the use of 22G cannula in NSR. They emphasized that using a cannula alone does not eliminate the risk of intra-arterial filler deposition. Their ultrasound findings indicated that nasal arteries can have a diameter of up to 1.1 mm, whereas the external diameter of a 22G cannula is approximately 0.7 mm.

### mR4P Technique

The mR4P technique does not require local anesthesia. It involves the injection of high  $G'$  HA into the columellar area. However, concomitant nasal shape problems such as a prominent dorsal hump or drooping tip and other injections of the R4P technique (points 1–3 in radix, supratip, and tip, respectively) may need to be performed with an intermediate  $G'$  HA, such as Restylane Volyme (20 mg/mL HA,  $G' = 239$ ), Juvéderm Ultra Plus XC (24 mg/mL HA,  $G' = 263$ ), and Belotero Intense (25.5 mg/mL HA,  $G' = 255$ ).<sup>11</sup> The authors have recently provided a comprehensive description of the R4P technique.<sup>3</sup> The filler injection should not exceed 0.05 mL. Before each injection, we perform aspiration.<sup>13</sup> The entire procedure, including photography, takes 15–20 minutes.

### Points 1–3

Points 1–3 are the same as in the R4P technique.<sup>3</sup> Point 1 is a supraperiosteal injection of 0.05 mL HA in the radix; it can be repeated 2 more times (total HA volume  $\leq 0.15$  mL). Point 2 is a suprachondrial injection of 0.025 mL of HA on the supratip. Point 3 involves a 3-bolus injection (bolus, retrograde, and repeated bolus in the interdomal space) into the deep fat of the tip (total HA volume 0.15 mL).

### Point 4

Point 4 involves the base, apex, and body of the columella and is subdivided into 4 points (4.1–4.4). The injection plane is supraperiosteal (point 4.1) or deep fat (points 4.2, 4.3, and 4.4), and the average HA volume is 0.30 mL.<sup>3</sup> Point 4.1, which opens the nasolabial angle, and

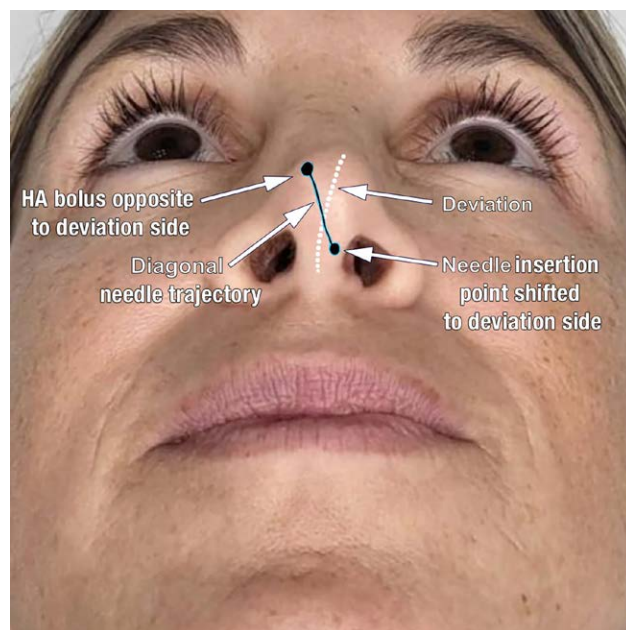


**Fig. 1.** Schematic demonstration of point 4.2. The direction of deviation is shown with a dotted line. The needle insertion point is shifted to the side of the deviation at the base of the columella. After aspiration, the needle should be advanced diagonally toward the nasal tip (solid line) in a direction opposite the deviation. Following another aspiration, a 0.05 mL HA bolus should be injected into the deep fat at the nasal tip. Then, after aspirating again, the injector should proceed with a retroinjection of a 0.05 mL deposit into the columella. Finally, a last 0.05 mL bolus should be injected at the base of the columella.

point 4.4, which provides extra resistance and strength to the columella, are performed as in the R4P technique. At point 4.1, a 0.05 mL bolus is injected supraperiosteally perpendicular to the nasal spine at the base of the columella. At point 4.4, 2 boluses of 0.05 mL each are injected, one on top of the other, into the deep fat at the base of the columella.

#### Point 4.2

In point 4.2, the objective is to provide more rigidity and strength to the columella (Fig. 1).<sup>3</sup> The syringe should be held at a 10-degree angle, and the injector should use an entry point at the same level as in point 4.1 but on the side of the deviation. After aspiration, the needle should be advanced diagonally toward the nasal tip in a direction opposite to the deviation. Following aspiration, a 0.05 mL bolus should be injected into the deep fat at the tip of the nose. After aspirating again, the injector should proceed with a retroinjection of a 0.05 mL deposit into the columella. Finally, another 0.05 mL bolus should be injected with the syringe held at a 90-degree angle at the base of the columella. If more filler is required, the above steps can be repeated twice, with a total HA volume of 0.15–0.45 mL. (See Video [online], which shows the demonstration of the HA injection at point 4.2. The needle's insertion point is not at the midline but at the side of



**Fig. 2.** Schematic demonstration of point 4.3. The direction of deviation is shown with a dotted line. The insertion point of the needle is located on the side of the deviation in the middle of the columella body, higher than in point 4.2. The steps proceed otherwise as described in point 4.2 (Fig. 1).

the deviation. After aspiration, the needle is advanced diagonally [yellow line] opposite the deviation toward the nasal tip, where an HA bolus is injected. Aspiration is repeated, followed by a retrograde bolus into the columella. Finally, another bolus is injected into the base of the columella.)

#### Point 4.3

The goal of point 4.3 is to raise the nasal tip (Fig. 2).<sup>3</sup> This point is similar to 4.2; however, the needle, held at a 10-degree angle, should be inserted into the middle of the columella body on the side of the deviation. After aspiration, the needle should be advanced diagonally in the direction opposite to the deviation toward the apex. Following aspiration, a 0.05 mL bolus should be placed into the deep fat at the tip. After aspirating again, the injector should proceed with a retroinjection of another 0.05 mL bolus into the columella. Finally, a 0.05 mL bolus is injected with a syringe held at a 90-degree angle into the middle of the columella body. These steps can be repeated up to 3 times if more volume is required.

#### Follow-up

Patients were followed up for a median period of 12 months (range: 8–18 mo) postprocedure. The patients were closely monitored after the procedure, and a decision about whether a touch-up was needed was made 4–7 weeks later.

#### Evaluation of Aesthetic Outcome

Evaluation of the aesthetic results by the injector was performed via serial photography, that is, comparison





**Fig. 3.** Correction of I-shaped NSD with the mR4P procedure using HA. A and B, Preoperative and postoperative projection in frontal view; C and D, preoperative and postoperative projection in head-tilted-back view; E and F, preoperative and postoperative projection in head-tilted-down view.

of photographs taken immediately before and after the procedure and at the last follow-up visit. At the last follow-up visit, patient satisfaction was assessed based on 3 possible responses: “very satisfied,” “satisfied,” and “unsatisfied.” Additionally, patients were surveyed to determine whether the procedure improved respiration.

### RESULTS

Eighty individuals underwent R4P. Fifty-five (68.7%) patients were women. The patients’ ages ranged from 20 to 73 years, with an average of 42 years. Two-thirds of the participants were White, and one-third were Latino. The mR4P procedure is best indicated for mild-to-moderate NSD and caudal deviations, including C-shaped and I-shaped deviations. Typical aesthetic outcomes of the mR4P technique are shown in [Figures 3–5](#). After the

initial procedure, a total of 18 (22.5%) patients underwent a touch-up at an average interval of 7 weeks postprocedure. The treatment effect was maintained for a median of 11 months (range: 7–16 mo).

Patient satisfaction was high, as determined by the quality of interactions observed during follow-up visits and the feedback obtained from interviews with the aesthetic provider. At the last follow-up visit, 70 (87.5%) patients confirmed they were “very satisfied,” whereas 10 (12.5%) patients expressed that they were “satisfied.” Patients who experienced a slight decrease in results after the procedure were very satisfied following the touch-up visit. Notably, 65 (81.2%) patients reported respiratory improvements after mR4P. Vascular complications were not encountered, and the patients tolerated the procedure well. Mild erythema, edema, and pain lasting up to 72 hours were sometimes observed after the procedure.





**Fig. 4.** Correction of C-shaped NSD with the mR4P procedure using HA. A and B, Preoperative and postoperative projection in frontal view; C and D, preoperative and postoperative projection in head-tilted-back view; E and F, preoperative and postoperative projection in head-tilted-down view.

## DISCUSSION

### mR4P Efficacy

Patients reported high satisfaction with the overall aesthetic outcome, particularly with the improvement in nose shape and profile. The procedure significantly enhanced the patients' self-perception of their appearance, resulting in increased confidence and empowerment. Patients were able to resume normal activities immediately after the procedure, which contributed to their satisfaction.

The outcomes of this study lasted for a median period of 11 months. Based on this observation, we recommend retreatment every 12 months to maintain desired outcomes. However, many patients visited our offices for other aesthetic procedures more than a year after mR4P treatment, indicating that the results were sustained for up to 16 months postprocedure.

### mR4P Safety

No vascular complications were observed in the present study. We are confident that the changes we made at points 4.2 and 4.3 in mR4P do not increase vascular risks. We advocate for using a 27G needle over smaller bore needles ( $\leq 30G$ ), which carry a higher risk of intravascular injection of the filler material and do not aspirate readily.<sup>14</sup> Our literature search did not reveal any cases of columellar artery embolization with NSR procedures. An NSR procedure using a cannula and following a columellar approach did not report any cases of embolization of the columellar artery.<sup>15</sup> Another study that approached the columella via retrograde linear threading from the nasal tip did not report cases of compromise of the columellar artery.<sup>16</sup> To decrease such remote risk at points 4.2 and 4.3, we aspirated 3 times: at the insertion point of the needle, then at the nasal tip before an HA bolus was given,





**Fig. 5.** Correction of I-shaped NSD with the mR4P procedure using HA. A and B, Preoperative and postoperative projection in frontal view; C and D, preoperative and postoperative projection in head-tilted-back view; E and F, preoperative and postoperative projection in head-tilted-down view.

and finally, again at the tip before starting the retrograde injection (Figs. 1, 2). Performing a slow diagonal retrograde injection with low extrusion pressure in points 4.2 and 4.3 adds another level of safety, as the needle is not positioned parallel to the columellar artery, and injecting slowly minimizes the vascular risks of high-pressure injections at a rapid rate, such as retrograde intravascular flow of the filler material.<sup>17–19</sup>

The safety tips for the R4P technique, which help reduce the risk of vascular incidents, are also applicable to the mR4P technique. These include injecting 0.05 mL or less boluses in small aliquots, injecting at deep planes, injecting in the midline, and compressing the lateral nasal and columellar arteries with the thumb of the nondominant hand pressing the tip of the nose while injecting (points 4.2 and 4.3).

After the completion of mR4P, the surgeon must promptly check for vascular refilling, which should take

less than 3–4 seconds.<sup>3</sup> Any prolonged duration will alert the injector to a possible vascular occlusion. The patient must be instructed to promptly contact the office upon experiencing any symptoms or signs of ischemia, such as pain, pallor, blanching, or mottled skin, to ensure that swift intervention, including hyaluronidase therapy, is implemented.<sup>20,21</sup>

#### Comparison With Other NSR Techniques

No similar studies are available for comparison with the mR4P technique. Previous NSR studies have focused on addressing issues such as prominent dorsal hump or repositioning of the nasal tip, but none have specifically addressed NSD.<sup>14,22–25</sup> Studies that included columellar HA injections did not specify regarding NSD.<sup>13,16,26</sup> In 1 case described by Piggott and Yazdani,<sup>27</sup> the authors corrected a right-sided deviation located in the middle of the nasal dorsum with filler augmentation on the left side of the

dorsum. Their procedure was not sufficiently detailed, but we recommend against such treatments because of substantial vascular risks in this area.

For the mR4P technique, we adjusted the soft tissue of the columella and nasal tip to bring it closer to the midline. Like the R4P technique, mR4P offers improved support to the columellar base (points 4.1 and 4.4) compared with procedures using columellar retroinjection<sup>16</sup> or plumb. Additionally, the mR4P technique retains all other advantages of R4P, mainly as some points of R4P, such as point 3, are often performed in mR4P. These advantages include the use of 2 HA gels with different rheological properties, which distinguishes R4P from other techniques,<sup>14,22–25</sup> providing good projection of the nasal dorsum, excellent definition, and greater triangularity of the tip.<sup>3</sup>

### Strengths and Limitations

The mR4P technique, a significant refinement of the NSR, was explicitly developed to improve the aesthetics of NSD. This innovative procedure has been successfully performed on a substantial number of patients in the authors' practices. To the best of our knowledge, there are no comparable NSR techniques that effectively address nasal shape issues related to NSD. The mR4P technique combines optimizing the aesthetic outcome with longevity. With the appropriate injection technique and safety precautions, no vascular adverse events were observed. Patients undergoing this procedure express very high satisfaction levels and report feeling more confident about their nasal profile after the procedure. Notably, an overwhelming majority of patients (81.2%) reported improved respiratory function following the mR4P procedure. Columella elevation could be a reason for experiencing improved breathing. Also, by reshaping the soft tissues, the procedure can open a nostril that feels "closed" due to NSD, further enhancing airflow.

The study is limited by the lack of a control group, the evaluation of results solely by the injector, and the overrepresentation of White and Latino patients among the participants. Patient satisfaction was assessed using a simple descriptive scale that may not capture small changes. This technique is effective for mild-to-moderate caudal deviation. However, it should not be used for cephalic (high), middle nose, and combined (S-shaped) deviations because of the substantial vascular risks associated with correction attempts. The procedure should only be performed by experienced injectors with a thorough understanding of the nasal anatomy, particularly the standard and variant patterns of nasal vascularization. Although evaluating NSR results can be challenging due to the lack of objective measurements regarding aesthetic outcome,<sup>3</sup> correcting NSD is immediately noticed and appreciated by the patient.

### CONCLUSIONS

The mR4P technique effectively improved the appearance of unpleasing deformities associated with NSD. This procedure yielded reproducible results and was associated

with high patient satisfaction. The aesthetic improvements achieved through mR4P were maintained for a median of 11 months. Patients with caudal deviations are suitable candidates for this procedure. Skilled injectors must possess a comprehensive understanding of nasal anatomy when performing the procedure. The risk of adverse effects can be significantly reduced by aspirating before slowly injecting small boluses ( $\leq 0.05$  mL) at deep planes and injecting into the midline, as evidenced by the absence of vascular complications in the study.

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### DISCLOSURE

*The authors have no financial interest to declare in relation to the content of this article.*

### PATIENT CONSENT

*Patients provided written consent for the use of their images.*

### HELSINKI DECLARATION

*The study complied with the ethical principles of the Declaration of Helsinki for medical research involving human patients.*

### REFERENCES

1. Carson Huynh C, Hamamdian C. Nonsurgical rhinoplasty with hyaluronic acid. *Atlas Oral Maxillofac Surg Clin North Am.* 2024;32:43–47.
2. Mortada H, Korb A, Mawdsley E, et al. The use of hyaluronic acid in non-surgical rhinoplasty: a systematic review of complications, clinical, and patient-reported outcomes. *Aesthetic Plast Surg.* 2024;48:194–209.
3. Silikovich F, Kroumpouzou G. Nonsurgical rhinoplasty: results from a retrospective study of Rino-4-Puntos technique with hyaluronic acid. *Aesthetic Plast Surg.* 2025;49:672–682.
4. Jasin ME. Nonsurgical rhinoplasty using dermal fillers. *Facial Plast Surg Clin North Am.* 2013;21:241–252.
5. Alghamdi FS, Albogami D, Alsuryahi AS, et al. Nasal septal deviation: a comprehensive narrative review. *Cureus.* 2022;14:e31317.
6. Moshfeghi M, Abedian B, Ghazizadeh Ahsaie M, et al. Prevalence of nasal septum deviation using cone-beam computed tomography: a cross-sectional study. *Contemp Clin Dent.* 2020;11:223–228.
7. van Egmond MMHT, Rovers MM, Tillema AHJ, et al. Septoplasty for nasal obstruction due to a deviated nasal septum in adults: a systematic review. *Rhinology.* 2018;56:195–208.
8. Periyasamy V, Bhat S, Sree Ram MN. Classification of naso septal deviation angle and its clinical implications: a CT scan imaging study of Palakkad population, India. *Indian J Otolaryngol Head Neck Surg.* 2019;71:2004–2010.
9. Tremp M, Schneider J, Raghu RBN, et al. A systematic analysis of the nasal septum in crooked noses and suggested treatment algorithm according to preservation rhinoplasty (PR) principles. *Aesthetic Plast Surg.* 2023;47:1499–1507.
10. Teixeira J, Certal V, Chang ET, et al. Nasal septal deviations: a systematic review of classification systems. *Plast Surg Int.* 2016;2016:7089123.

11. de la Guardia C, Virno A, Musumeci M, et al. Rheologic and physicochemical characteristics of hyaluronic acid fillers: overview and relationship to product performance. *Facial Plast Surg*. 2022;38:116–123.
12. Magacho-Vieira FN, Santana AP. Are large diameter cannulas safe in nonsurgical rhinoplasty? *J Cosmet Dermatol*. 2023;22:2174–2177.
13. Rauso R, Tartaro G, Chirico F, et al. Rhinofilling with hyaluronic acid thought as a cartilage graft. *J Craniomaxillofac Surg*. 2020;48:223–228.
14. Josipovic LN, Sattler S, Schenck TL, et al. Five-point liquid rhinoplasty: results from a retrospective analysis of a novel standardized technique and considerations on safety. *J Cosmet Dermatol*. 2022;21:5614–5620.
15. Magacho-Vieira FN, Alfertshofer MG, Cotozana S. The deep columellar approach for liquid rhinoplasty—a case series of 511 procedures over 16 years. *Facial Plast Surg Clin North Am*. 2022;30:193–203.
16. Jung GS. Filler rhinoplasty based on anatomy: the dual plane technique. *JPRAS Open*. 2019;20:94–100.
17. DeLorenzi C. Complications of injectable fillers, part 2: vascular complications. *Aesthet Surg J*. 2014;34:584–600.
18. DeLorenzi C. New high dose pulsed hyaluronidase protocol for hyaluronic acid filler vascular adverse events. *Aesthet Surg J*. 2017;37:814–825.
19. Snozzi P, van Loghem JAJ. Complication management following rejuvenation procedures with hyaluronic acid fillers—an algorithm-based approach. *Plast Reconstr Surg Glob Open*. 2018;6:e2061.
20. Kroumpouzos G, Harris S, Bhargava S, et al. Complications of fillers in the lips and perioral area: prevention, assessment, and management focusing on ultrasound guidance. *J Plast Reconstr Aesthet Surg*. 2023;84:656–669.
21. Kroumpouzos G, Treacy P. Hyaluronidase for dermal filler complications: review of applications and dosage recommendations. *JMIR Dermatol*. 2024;7:e50403.
22. Han X, Hu J, Cheng L, et al. Multiplane hyaluronic acid (EME) in female Chinese rhinoplasty using blunt and sharp needle technique. *J Plast Reconstr Aesthet Surg*. 2015;68:1504–1509.
23. Giammarioli G, Liberti A. Non-surgical rhinoplasty technique: an innovative approach for nasal reshaping with hyaluronic acid fillers. *J Cosmet Dermatol*. 2023;22:2054–2062.
24. Amore R, Donnamaria D, Marini F, et al. Nonsurgical rhinoplasty with injectable fillers: Italian technique for reshaping the tip of the nose. *Am J Cosmet Surg*. 2015;32:172–177.
25. Kassir R, Venkataram A, Malek A, et al. Non-surgical rhinoplasty: the ascending technique and a 14-year retrospective study of 2130 cases. *Aesthetic Plast Surg*. 2021;45:1154–1168.
26. Rauso R, Colella G, Zerbinati N, et al. Safety and early satisfaction assessment of patients seeking nonsurgical rhinoplasty with filler. *J Cutan Aesthet Surg*. 2017;10:207–214.
27. Piggott JR, Yazdani A. Hyaluronic acid used for the correction of nasal deviation in an 18-year-old Middle Eastern man. *Can J Plast Surg*. 2011;19:156–158.