


Fashioned Mucoperichondrium Flap Technique in Caudal Septal Deviation

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Abstract

Caudal septal dislocation is a common finding, and it could lead to functional as well as aesthetic morbidity. There are different techniques to support the anterior end of the nasal septum and stabilize it in midline position. There are technical and practical difficulties in those techniques. This study describes a newly fashioned mucoperichondrium flap technique in caudal septal dislocation. This study was done in 40 patients (29 male and 11 female) with a mean (SD) age of 25 (3.2) years who had symptomatic septal deviation with minor and moderate caudal septal dislocation. The mucoperichondrium flap on the side of the columellar dislocation was fashioned to be straight and stretched by excision of the extra length. It acted as a supporting scaffold for the straightened septum to be secured and fixed in the midline without need of any stabilizing sutures. All the patients had satisfactory functional and cosmetic results with correction of the columellar dislocation.

Keywords

septoplasty, caudal septal, septal deviation, septum, mucoperichondrium flap

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Nasal septal deviation is a common finding. There are many types described. Caudal septal deviation is defined as displacement of the caudal portion of septal cartilage to one side of the maxillary crest, and it accounts for up to 40% of cases.¹

Columelloplasty with simple mattress sutures,² figure-of-8 sutures,³ and interlocking mattress sutures¹ all are techniques that have been described in caudal septal deviation. There are technical and practical difficulties with these techniques.

In this study, I describe a technique to secure the nasal septum in the midline after straightening the septal cartilage without suturing of the quadrilateral cartilage to the periosteum of the nasal spine or any complex supporting sutures.

Patient and Methods

The study included 40 patients (29 male and 11 female) with a mean (SD) age of 25 (3.2) years who had symptomatic septal

deviation with minor and moderate caudal septal dislocation (23 to the left side and 17 to the right). Patients with severe caudal septal dislocation who needed rhinoplasty, previous nasal surgery, and age less than 18 years were excluded.

Informed written consent was signed by all patients to share in the study after explanation of its purpose and after approval of the Zagazig University review board.

The description assumes left-side caudal dislocation, but the technique can be adapted to right-side caudal dislocation.

Left-side hemitransfixion incision and left mucoperichondrium flap elevation are completed. The perichondrium around the anterior edge of quadrilateral cartilage is elevated and rolled to reach the right side, and then the right mucoperichondrium flap is raised. The junction between the perpendicular plate and the quadrilateral cartilage is identified and dissected. Appropriate septoplasty technique is done to straighten the nasal septum with removal of the extra deviated cartilage. Any deviation or spur of the maxillary crest is removed.

A full-length columellar pocket is created using curved scissors. The caudal cartilage is inserted and secured in this pocket. The left mucoperichondrium flap is fashioned by removing redundancy to become straight and stretched, acting as a supporting scaffold to the straightened nasal septum.

Fashioning the Mucoperichondrium Flap

The nasal septum support becomes weak after straightening the septum. The main challenge at this step is to secure and support the straightened nasal septum in the desired position (midline) (**Figure 1**).

After inserting the quadrilateral cartilage in the columellar pocket in the midline, the left flap is now redundant and longer (deviation side). Two releasing incisions are made in the upper and lower anterior end of the left flap. The first is in the upper anterior end. Its length is variable, as it should be extended until flap redundancy is disentangled superiorly

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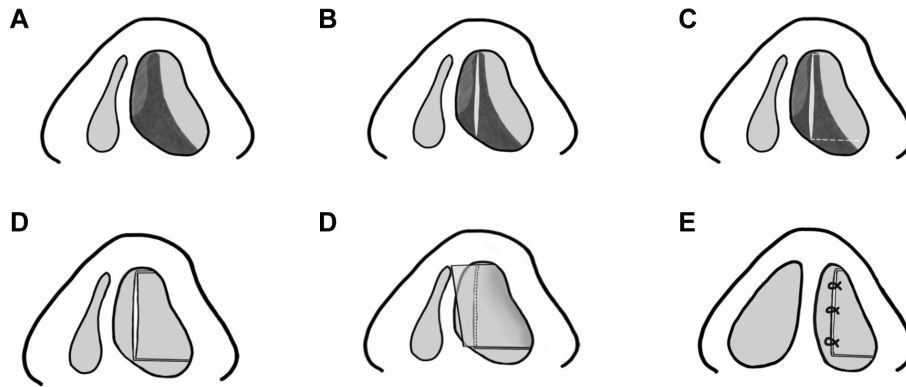


Figure 1. Fashioned technique. (A) Left caudal dislocation. (B) Hemitransfixing incision. (C) Superior and inferior releasing incision. (D) Mucoperichondrium flap. (E) Stretched mucoperichondrium flap. (F) Suturing of the mucoperichondrium flap after excising the redundant part.

while stretching the flap anteriorly. The second incision is in the lower anterior end with enough length until disentangling flap redundancy inferiorly while stretching the flap anteriorly. The length of the superior and inferior releasing incision, and so the length of the excised part superiorly and inferior are not usually the same. This depends on the degree of flap redundancy after straightening and repositioning the nasal septum in the midline within the columellar pocket.

The left mucoperichondrial flap is stretched to be straight, and then the extra part of the flap is excised (**Figure 2**).

The aim is to remove the redundant part of the left mucoperichondrium flap in order to obtain a stretched and straight mucoperichondrial flap, then suture the flap anteriorly. Now the left flap is stretched and will act as a supporting scaffold for the cartilage to be secured and fixed in its desired position without need of any supporting sutures. Two plastic splints are applied and then removed after 1 week.

Results

All the patients had satisfactory functional and cosmetic results with no recorded complication in the follow-up period (6-18 months) (**Figure 3**). The patients were evaluated post-operatively with anterior rhinoscopy and endoscopic examination, which showed no recurrent deviation or dislocation.

Discussion

In septoplasty, quadrilateral cartilage is detached from bony attachments, and then the septum is straightened and repositioned in the midline.

There are different techniques to support and stabilize the quadrilateral cartilage in the midline position. Suturing the quadrilateral cartilage to the maxillary spine is difficult in poorly formed spine; on many occasions, it fails to correct associated tip ptosis and does not succeed in repositioning the whole length of caudal septum in the midline.⁴

Pastorek and Becker⁵ relocated the caudal septum over the nasal spine, which acted as a “doorstop” to secure the caudal septum in a straighter position. Kenyon et al² used the mattress suture technique to maintain the caudal septum in a columella pocket. All the above techniques not only show

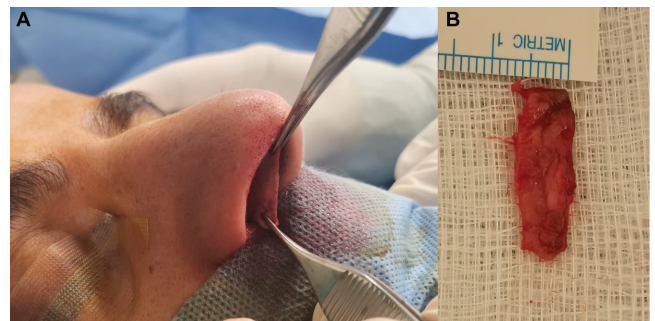


Figure 2. (A) The mucoperichondrium flap after the superior and inferior releasing incision. (B) The excised part of the flap.

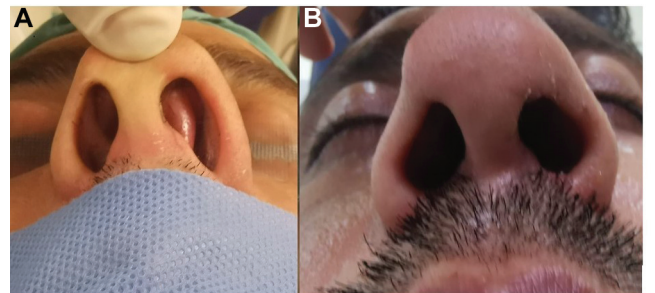


Figure 3. The caudal portion of the nose (A) preoperatively and (B) postoperatively after removal of the splint.

technical difficulties but also support quadrilateral cartilage only.

In this technique, the mucoperichondrium flap on the deviated side is framed and fashioned by excising the redundancy to become straight and stretched to secure the straightened nasal septum (bony and cartilaginous) in the desired midline position within the columellar pocket without any supporting sutures.

The above technique does not replace any straightening techniques of deviated nasal septum, but it is used as an adjunct to stabilize and fix the septum in the desired position, benefiting from the scaffolding effect of stretched mucoperichondrial

flap. In our experience, functional and cosmetic results are excellent as well as predictable in long term.

Conclusion

The technique presented in this study is simple, easy, rapid, and effective in correcting minor to moderate caudal septal dislocation without the need for any complex supporting sutures.

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Author Contributions

Ahmed Abdelfattah Bayomy Nofal, developed the idea, wrote the manuscript, reviewed the writing, reviewed other literatures.

Disclosures

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