

# Correction of Primary Alar Concavity by Lateral Crural Reversing

Mohsen Naraghi, MD, FARS<sup>1,2</sup>, Hamed Sarikhani, MD<sup>3</sup>



## Astract

Extreme concavities of the lower lateral crura can cause severe aesthetic and functional problems. Lateral crural reversing can contour the shape, reconstruct lateral crus completely, and correct concavity and valve collapse by a simple but delicate technique. It could be done with or without reinforcing grafts. This retrospective study was directed at thirty-four primary rhinoplasty patients with the follow-up from one to eight years. After transcolumellar and marginal incisions, the skin flap was elevated in a supraprimerichondrial plane, exposing the lower lateral cartilages and cartilaginous dorsum. Then the mucosa was detached from the posterior surface of the lower lateral crura. The cartilages were released, excised, reversed, and fixed in place. Different lateral crural grafts were used in some of the patients. All patients were improved in form and function with different degrees of improvement according to the Nasal Obstruction Symptom Evaluation (NOSE) Scale. There was no significant difference between the patient with or without the use of grafts. Postoperative swelling was longer in patients with grafts. However, there was no long-term complication and all patients were satisfied with the long-term aesthetic and functional results. With the lower lateral crural reverse plasty, severe concavities of the lower lateral crura can be corrected. This technique is a useful and reproducible procedure, performed without additional tissue to achieve functionally and aesthetically satisfying and enduring results.

## Objectives

To acknowledge a practical technique for the correction of nasal alar concavity and collapse. To learn how to correct severe alar concavities leading to the collapse of the nasal valve, by lateral crural reversing with or without different lateral crural grafts.

## Introduction

Extreme concavities of the lower lateral crura can cause severe aesthetic and functional problems. Lateral crural reversing can contour the shape, reconstruct lateral crus completely, and correct concavity and valve collapse by a simple but delicate technique. It could be done with or without reinforcing grafts.

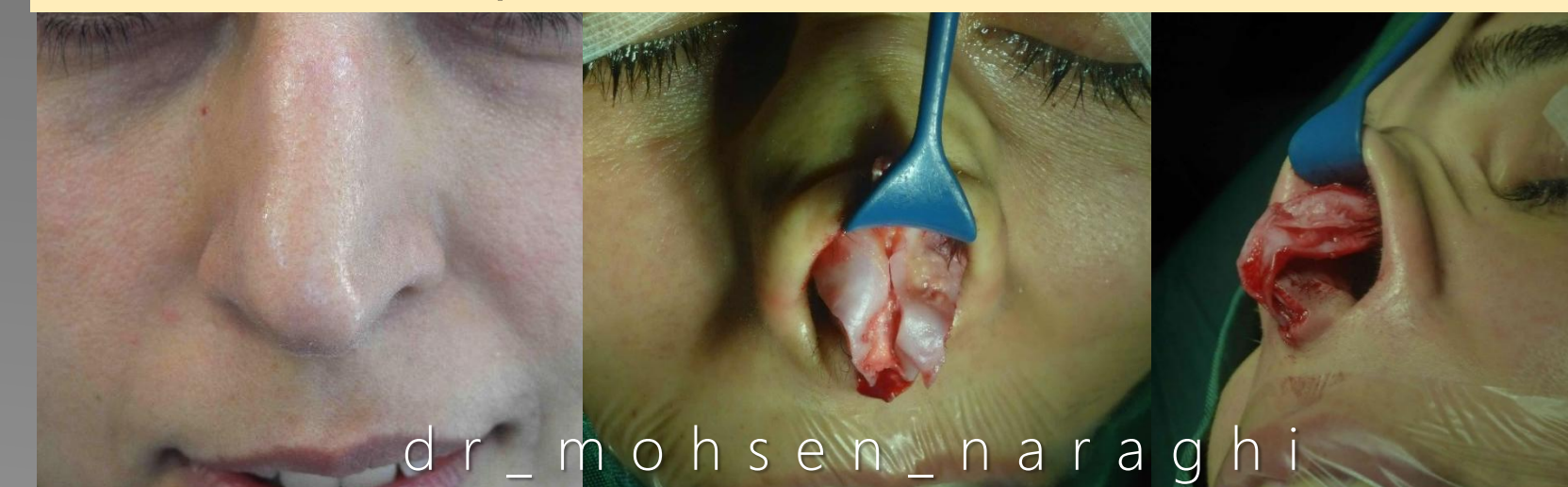
## METHODS AND MATERIALS

This retrospective study was directed at thirty-four primary rhinoplasty patients with the follow-up from one to eight years. After transcolumellar and marginal incisions, the skin flap was elevated in a supraprimerichondrial plane, exposing the lower lateral cartilages and cartilaginous dorsum. Then the mucosa was detached from the posterior surface of the lower lateral crura. The cartilages were released, excised, reversed, and fixed in place. Different lateral crural grafts were used in some of the patients.

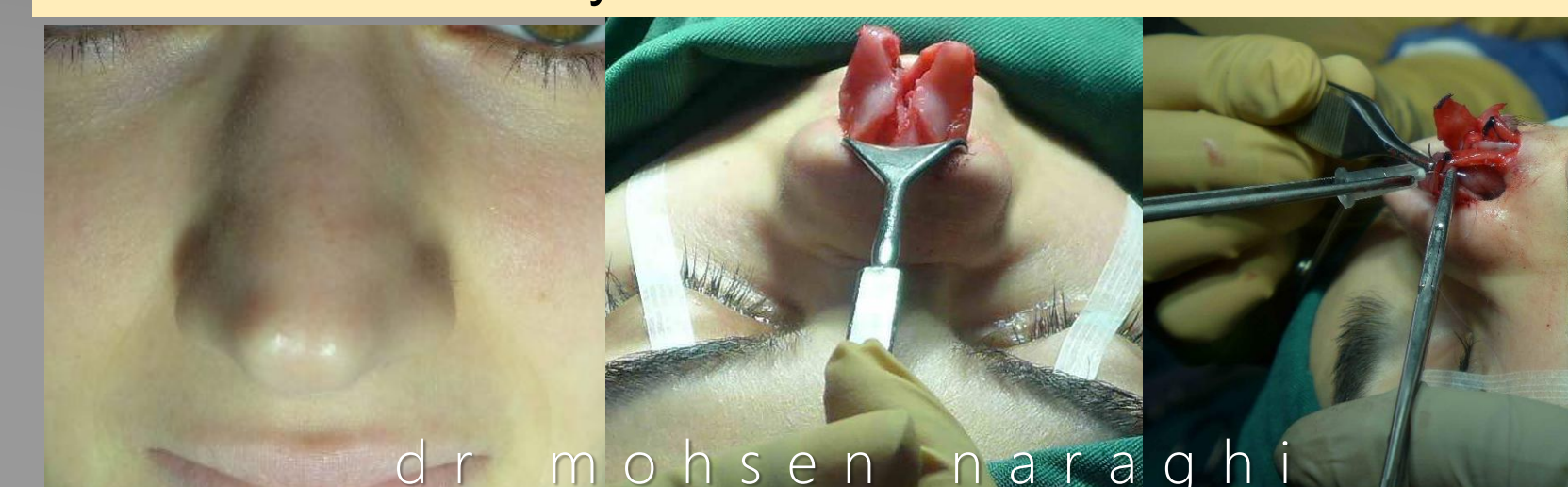
### Different Techniques for Correction of Primary Alar Concavity

- Camouflage Graft
- Lateral Crural Overlay
- Lateral Crural Strut Graft
- Lateral Crural Repositioning
- Lateral Crural Reversing
- Turn in Flap
- Turn over Flap
- Alar Rim Graft
- Batten Graft

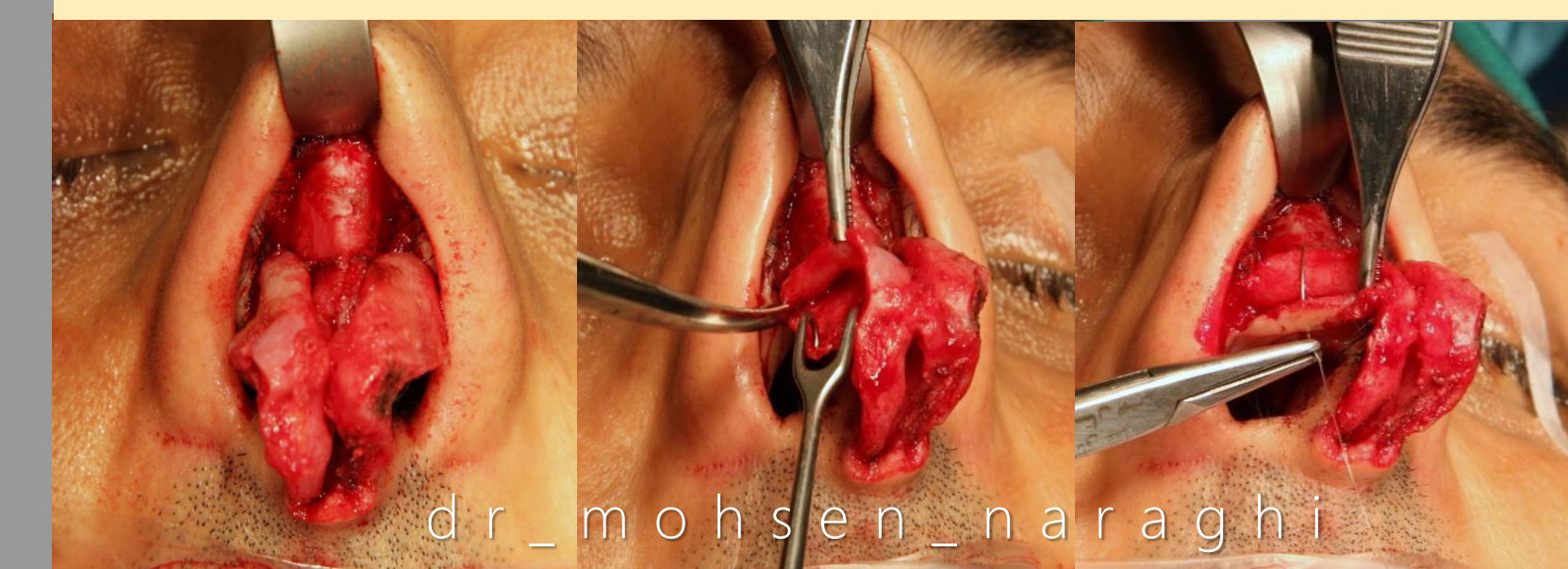
Lateral Crural Cap Graft



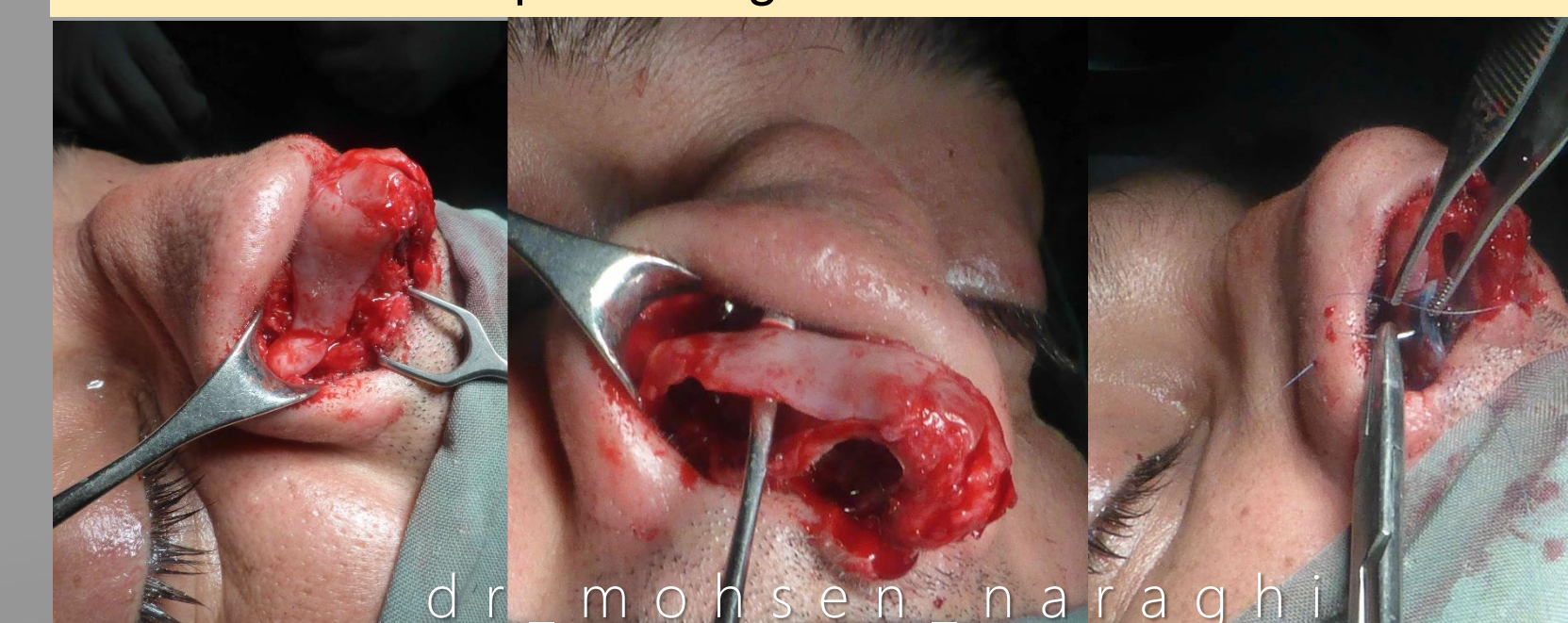
Lateral Crural Overlay



Lateral Crural Strut Graft



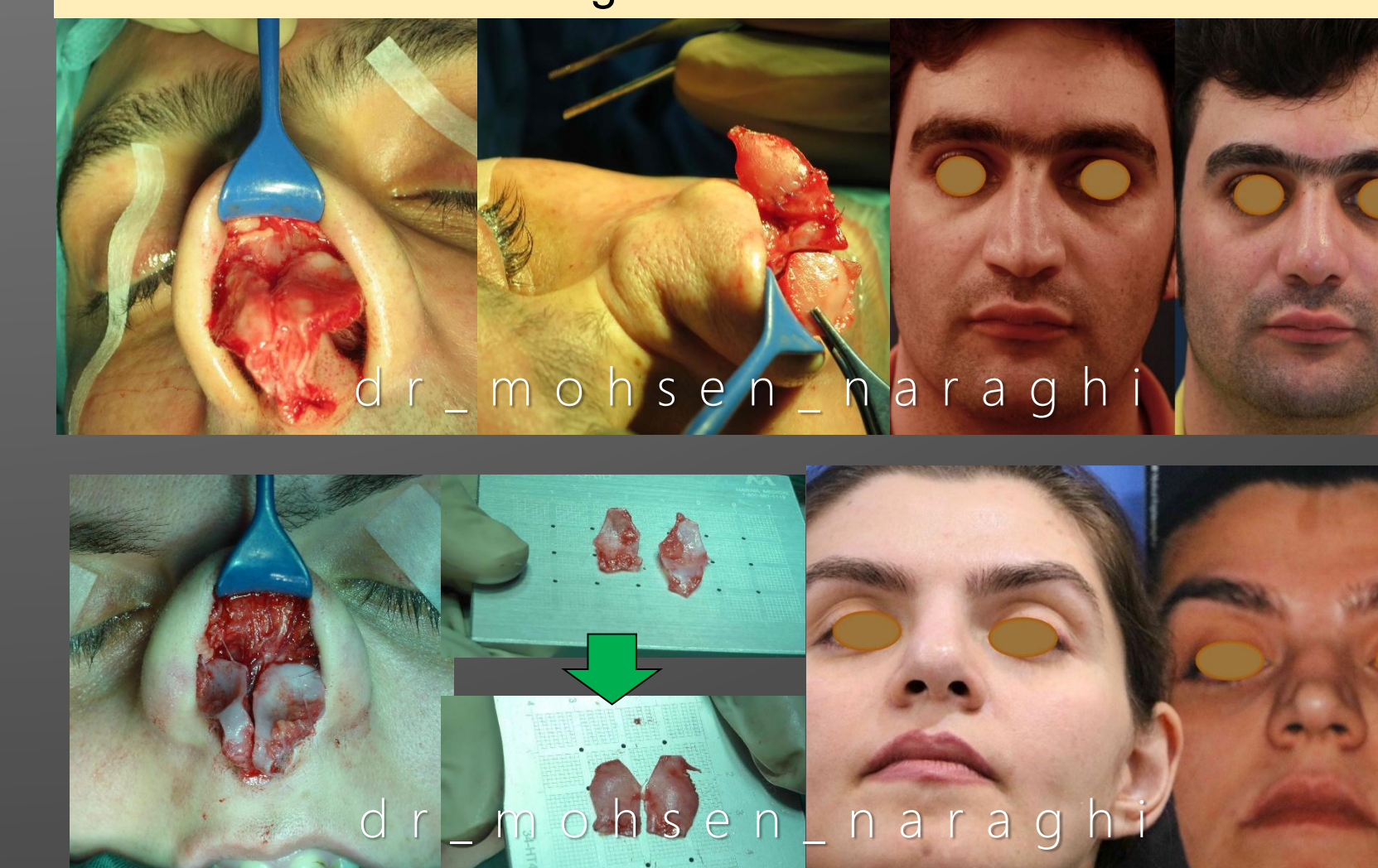
Lateral Crural Repositioning



Lateral Crural Reversing + Bridging Graft



Lateral Crural Reversing – No Graft



Lateral Crural Reversing + Lateral Crural Strut Graft



## RESULTS

All patients were improved in form and function with different degrees of improvement according to the Nasal Obstruction Symptom Evaluation (NOSE) Scale. There was no significant difference between the patient with or without the use of grafts. Postoperative swelling was longer in patients with grafts. However, there was no long-term complication and all patients were satisfied with the long-term aesthetic and functional results.

## CONCLUSIONS

With the lower lateral crural reverse plasty, severe concavities of the lower lateral crura can be corrected. This technique is a useful and reproducible procedure, performed without additional tissue to achieve functionally and aesthetically satisfying and enduring results.

### Reversing Pearls

- Augment with Lateral Crural Strut when the reversing segment is short.
- Change the left and right side in case of better fitting.

### Reversing Pitfalls

- Avoid asymmetry by meticulous dissection and fixation
- Avoid alar collapse in case of too short crurae by adding graft.
- Avoid alar retraction by complete preservation of the vestibular skin.