Chapter 4

Digital Fracture Versus Lateral Osteotomy

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Abstract

The purpose of digital fracture versus lateral osteotomies is to narrow the bony base of the nose after the dorsal correction, by closing the open dorsal roof, avoiding the lateral "rocker" or steplike deformities. The author presents the digital fracture technique, which is simple, safer, closes the open dorsal roof after medial osteotomy much better, and does not provoke bleeding and bruising. It is atraumatic and saves time during the operation and recovery.

Keywords: Rhinoplasty, digital fracture, infracture versus lateral osteotomy, dorsal roof closure, mini- invasive, atraumatic, no bleeding, small bruising, no complications

1. Introduction

Lateral osteotomy, internal or external, or in different levels, has some negatives that can lead to single or multiple reoperations. Its main complications are: unnatural contour of nasal bones; visible and palpable bony step, collapse of the upper lateral cartilages, along with infection, bleeding, massive edema, anosmia, lacrimal duct injury, intracranial injuries, disfigured appearance, narrow airway, and nasal obstruction. It is very difficult to reverse a lateral osteotomy and revision may end up with more of a flat top or square top nose, known as an open roof deformity [1, 2].

Choosing a method for closure of the open dorsal roof after medial osteotomy must be balanced with the other features and characteristics of the nose. In this regard, "digital fracture" has many advantages over lateral osteotomy – it is much more precise in closing the dorsal roof, without danger of bleeding, step formation, collapse of the upper lateral cartilages, and nasal obstruction. It is performed easily in any type of nose. The author has not observed any complications connected to this technique [3, 4].

2. Surgical technique

The author applies the digital fracture technique after medial osteotomy and hump removal, in primary as well as in secondary cases. It is performed by applying lateral pressure on the nasal bone in its dorsocaudal end, using the thumb. The other hand fixes the head with opposite pressure (Figure 1). There is a very small percentage of difficult digital fractures, mostly in men with thick nasal bones. A skin-colored tape is used for 3 days to reduce the swelling – the glue of the tape is hypertensive and partially absorbs the edema (Figure 2).

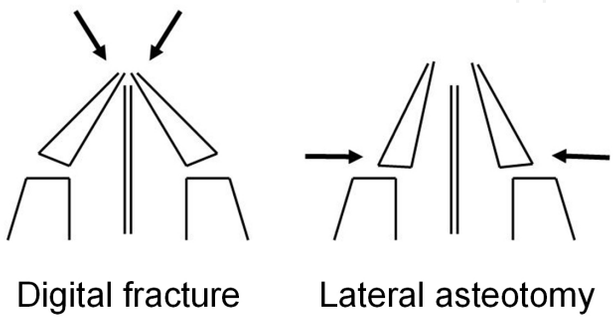

Figure 1. Digital fracture better adapts the nasal bones to close the dorsum and prevents step form deformity, which can often be seen in cases with lateral osteotomies.

Figure 2. A. Before. Aquiline long nose. No aesthetic proportions are present. **B.** After. Day 1 after T-excision for nasal tip rotation, humpectomy, digital fracture, and columella sliding for exact tip projection; simultaneous chin augmentation by Serdev Suture® and lower lip scar excision. Atraumatic surgery, no plaster, no tampons. Aesthetic proportions, angles, and volumes give aesthetic beautification The skin-colored tape will be removed on day 3. On day 1, as apparent, there is no bruising due to the atraumatic nature of the technique. On the first day, patients visit the clinic to have their nose cleaned and the crust removed. On questioning why she has used make up, she answered that she feels beautiful.

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The technique has been used in all cases of author's rhinoplasties with humpectomy, under local anesthesia, since 1994. It gives a very natural result in all primary cases, as well as in secondary cases. It saves time, there is almost no bleeding and trauma is minimal Thus, downtime is shortened.

3. Clinical cases

In all of author's chapters, results after humpectomy show the result of digital fracture as well.

Due to the lack of trauma, there is no post-op bruising in 30% of the cases with medial osteotomy and digital fracture.

Bruising is observed in nearly 70% of the cases. It is mostly linear along the tear through and disappears in a week (Figure 3).

Figure 3. A. Before. A patient with a so-called Greek long nose. Small hump is present with no marked nasion concavity. **B**. Third day after humpectomy and digital fracture of the nasal bones, T-excision and columella sliding. The nasion is marked, the dorsum is slightly concave. Beautification is visible, due to correct aesthetic proportions, nasal angles, and tip volume. On the third day post op, the tape is removed, edema and bruising are minimal.

4. Conclusions

Digital fracture is superior to lateral osteotomy. It is a very simple technique, atraumatic, takes only some minutes to perform, prevents from bleeding and shortens downtime. It prevents

surgeons and patients from all possible lateral osteotomy complications and has no known complications itself.

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