

Lacrimal Fistula 10 Years After Closed Cosmetic Rhinoplasty: Case Report

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Abstract Lateral osteotomies performed during cosmetic rhinoplasty can be associated with several complications. Due to the proximity of the lacrimal drainage system to the site of lateral osteotomies, the lacrimal system may be injured during this procedure. This type of injury is very rare, with few reports in the literature. The authors describe a 31-year-old woman who underwent a cosmetic rhinoplasty and experienced postoperative recurrent conjunctivitis with purulent discharge and epiphora. A lacrimal fistula developed 10 years after the procedure.

Keywords Cosmetic rhinoplasty · Lacrimal fistula · Lateral osteotomies · Postoperative recurrent conjunctivitis

Lateral osteotomies performed during cosmetic rhinoplasty can be associated with several complications. These may include excessive hemorrhage, prolonged edema and ecchymosis, functional nasal obstruction due to excessive narrowing, and post-rhinoplasty aesthetic deformity and asymmetry. Due to the proximity of the lacrimal drainage system to the site of lateral osteotomies, the lacrimal system may be injured during this procedure. Although some authors have suggested that this type of injury is very unlikely [1, 2], the literature has reports describing injuries to the lacrimal apparatus [3, 4]. Most of the injuries were minor and transitory, but there also were major injuries necessitating a surgical solution.

Case Report

A previously healthy 31-year-old woman presented to our clinic with a few months history of an opening in the lower medial canthal angle of her left eye (Fig. 1). She reported that she had undergone a cosmetic rhinoplasty including lateral osteotomies some 10 years earlier. After the operation, she experienced recurrent bouts of conjunctivitis with purulent discharge and epiphora. The management had been conservative using topical antibiotics and ocular lubricants.

Examination showed a 2-mm ostium in the lower medial canthal angle (Fig. 1). There were no signs of infection or discharge in this area. The patient's visual acuity was 6/6 for the left eye and 6/6 for the right eye. When lacrimal irrigation through the lower punctum was performed, fluid passed into the nose. However, there also was fluid regurgitation from the new ostium, confirming the diagnosis of a lacrimal fistula. A dacryocystogram to visualize the lacrimal system was not performed at this time because the patient was pregnant.

The patient had a clear medical history without any autoimmune diseases and could not recall any previous injury to the eye that could explain the development of this fistula. The temporal relationship between the appearance of the recurrent conjunctivitis and the rhinoplasty procedure led the authors to assume a causal relationship between the rhinoplasty and the fistula. Because the patient was pregnant, we decided to postpone a further evaluation and treatment of the fistula until after the delivery.

Discussion

Lacrimal fistula is a rare condition, mostly congenital [5], and only occasionally is a consequence of trauma [6]. Only

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Fig. 1 Patient with an ostium in the lower medial canthal angle

a few reports in the literature describe injury to the lacrimal drainage system during lateral osteotomies, with the most common complication being lacrimal obstruction with epiphora.

In 1968, Flowers and Anderson [3] obtained dacryocystograms of fresh cadavers after lateral osteotomies had been performed. Of 37 specimens, 17 (23%) evidenced disruption of the lacrimal apparatus in the region of the lacrimal sac. Subsequently, 27 consecutive rhinoplasty patients were examined using the fluorescein dye disappearance test. Although 21 patients showed lacrimal obstruction on postoperative day 2, no patient showed evidence of obstruction at 3 months. These authors also reviewed the records of 1,000 rhinoplasty patients and found no evidence suggesting previous lacrimal duct injury. This led to the conclusion that damage produced by osteotomies is limited to the lacrimal sac, which heals rapidly without stenosis.

Flanagan [4] reported four cases of permanent epiphora after rhinoplasty. He stressed that early bleeding from the eye after the procedure may be an important sign of injury to the lacrimal apparatus and should be evaluated carefully.

In contrast, Lavine et al. [1] suggested that injury to the lacrimal apparatus is highly unusual. Immediately after the lateral osteotomies, these authors performed dacryocystography for 30 nasolacrimal ducts of 15 patients. Because no evidence of dye extravasation (indicating lacrimal apparatus injury) could be found, the authors concluded that injury to the drainage system during rhinoplasty does not occur.

In addition, Thomas and Griner [2], studying 10 fresh cadaver specimens after bilateral osteotomies, could not find any injury to the duct. They therefore proposed that lateral osteotomies are a safe step in the rhinoplasty procedure.

Conclusion

Although injury to the lacrimal drainage system during cosmetic rhinoplasty is very rare, the surgeon should be aware of this possibility. In particular, persisting epiphora or recurrent conjunctivitis after the procedure, as presented in this report, should alert the physician and mandate careful evaluation of the lacrimal apparatus, thus avoiding the development of a lacrimal fistula.

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