Endoscopic Ultrasonic Dacryocystorhinostomy for Recurrent Dacryocystitis Following Rhinoplasty

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ABSTRACT

The lacrimal sac is the structure most vulnerable to injury when performing osteotomies for rhinoplasty. When performed in a low lateral position or along the frontal process of the frontal-maxillary suture, osteotomies have the potential to tear the medial canthal ligament and injure the underlying lacrimal sac resulting in dacryocystitis. We report a case of dacryocystitis in a 19 year old male who presented with recurrent episodes of pain, tearing, and discharge from his left eye following primary rhinoplasty. He was found to have obstruction of the lacrimal system secondary to a low lateral osteotomy with an impinging bone fragment on imaging. Endoscopic dacryocystorhinostomy was performed using a Sonopet® ultrasonic bone aspirator under image guidance to remove the bone fragments posing risk to further injury to the lacrimal sac and orbit. Patency of the nasolacrimal duct was achieved and the patient remained symptom free at 6 month follow up. We describe the first case of recurrent dacryocystitis following rhinoplasty requiring treatment by an endoscopic dacryocystorhinostomy (DCR). Endoscopic DCR with the use of the ultrasonic bone aspirator provides several advantages over open DCR, including the lack of an external incision and decreased risk of injury to the adjacent orbital soft tissue anatomy including the lacrimal system.

CASE PRESENTATION

A 19 year-old male presented with recurrent episodes of pain, tearing, and discharge from his left eye following primary rhinoplasty. He was found to have obstruction of the lacrimal system secondary to a low lateral osteotomy with an impinging bone fragment on imaging. Endoscopic dacryocystorhinostomy was performed using a Sonopet® ultrasonic bone aspirator under image guidance to remove the bone fragments posing risk to further injury to the lacrimal sac and orbit. Patency of the nasolacrimal duct was achieved and the patient remained symptom free at 6 month follow up. We describe the first case of recurrent dacryocystitis following rhinoplasty requiring treatment by an endoscopic dacryocystorhinostomy (DCR). Endoscopic DCR with the use of the ultrasonic bone aspirator provides several advantages over open DCR, including the lack of an external incision and decreased risk of injury to the adjacent orbital soft tissue anatomy including the lacrimal system.

METHODS

The patient underwent a successful endoscopic dacryocystorhinostomy. In order to avoid comminution of the fractured lacral fossa and canal and potential injury to the orbit, the Sonopet® ultrasonic bone aspirator (Stryker, Inc., Kalamazoo, MI) was employed to remove the bone overlying the lacrimal sac under image guidance (Figure 2). The lacrimal system was opened with an incision into the canaliculus to reach the lacrimal duct. The flap was elevated and the lacrimal system was opened under image guidance (Figure 2). The lacrimal duct was placed in the nasal cavity to maintain patency. Post-operatively, cultures grew Staphylococcus aureus and he was treated with a six week course of clarithromycin after which the Crawford tube was removed.

RESULTS

At six months follow-up the patient had no evidence of epiphora, infection, pain or discomfort from the left eye.

CONCLUSION

Care must be taken to avoid LDS injury during the performance of lateral osteotomies. Low curved osteotomies using sharp instruments, following the nasomaxillary groove, remaining inferior to the frontal suture line, and without prior subperiosteal tunnels may reduce the risk of LDS injury. Epiphora and dacryocystitis may be successfully managed through endoscopic DCR without potentially disfiguring external DCR incisions. Finally, use of the ultrasonic bone aspirator should be considered in cases where bone fragmentation is suspected to help minimize risk to adjacent orbital soft tissue anatomy and to prevent injury to the lacrimal system.

REFERENCES