Dacryocystorhinostomy For Acquired Naso-Lacrimal Duct Obstruction: A Comparative Study Of Endonasal Endoscopic Versus External Procedures

Akram M. Al-Gendy & Tarek Nehad

Departments of Otorhinolaryngology & Ophthalmology, Faculty of Medicine - Benha University

ABSTRACT

Objectives: The current study aimed to compare the outcome of endonasal endoscopic (Endo) dacryocystorhinostomy (OCR) versus external (Ext) OCR with mitomycin C application.

Patients & Methods: The study included 18 patients; 5 males and 13 females with mean age of 25.8 ± 12.8 years presented by epiphora secondary to lower lacrimal system obstruction with a mean duration of symptoms was 3.2 ± 1.1 years. Patients were allocated into 2 groups: Endo-OCR group; underwent endoscopic transnasal OCR and Ext-OCR+M underwent external OCR with application of mitomycin C. Patients were examined at 1-week, 1, 2, 4 and 6-months postoperative (PO). Postoperative success was evaluated by subjective resolution of epiphora, negative regurge and positive irrigation tests. All patients underwent PO nasal endoscopy to assure patency of the duct.

Results: Mean duration of surgery for Endo-OCR was significantly shorter compared to Ext-OCR. Intraoperative difficulties included extensive manipulation for bony ostium formation during Endo-OCR in 4 patients. During Ext-OCR, intraoperative bleeding was troubleshooting in 3 cases, difficult bony ostium formation in 2 patients and in one patient anteriorly displaced ethmoid was encountered. Posterior flap of the nasal mucosa were lost in one case and both flaps were lost in another case. In Endo-OCR group, 2 patients showed recurrent obstruction, on endoscopic examination a membranous scar at site of osteotomy; at 2- and at 4-months PO, endoscopic removal of granulation tissue and cauteterization followed by re-operation succeeded in one patient but failed in the other. The remaining 8 patients had complete resolution of symptoms with primary success rate of 80%, revision surgery rate of 20% and the total success rate was 90%. Another 2 patients in Ext-OCR+M developed recurrent obstruction with positive regurge test and negative irrigation test with a success rate of 75% after Ext-OCR+M that was non-significantly lower compared to Endo-OCR.

Conclusion: It could be concluded that endoscopic OCR provided superior outcome to external OCR with good cosmetic appearance, short operative time and rapid patient recovery and high success rate. However, application of mitomycin C is an adjuvant substance during external OCR increased its success rate and external OCR with application of mitomycin C is advocated wherever endoscopic facilities were lacking.

INTRODUCTION

Dacryocystorhinostomy (DCR) has been touted as the standard procedure for acquired nasolacrimal duct obstruction. It can be performed through a cutaneous incision, traditionally referred to as external DCR, or via a transnasal approach under either direct visualization or endoscopic guidance. In both approaches, the lacrimal sac mucosa is connected to the nasal mucosa above the level of the mechanical obstruction at the nasolacrimal duct. It is indicated for most of chronic dacryocystitis. The percentage of success with dacryocystorhinostomy presented by several authors is usually greater than 90%, regardless of the surgical technique used. In spite of technical advances, recurrences may occur within 4 to 6 weeks after surgery. Anatomic conditions and affections that may lead to lack of success include a small lacrimal sac and ethmoid cells in the bone trepanation area, Paget's disease, sarcoidosis, nasal fracture, medium turbinate hypertrophy, septal