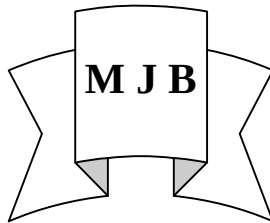


Endoscopic Dacryocystorhinostomy

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Case Report

Introduction

The aim of dacryocystorhinostomy (DCR) is to restore the flow of tears to the nose via new passage other than the obstructed nasolacrimal duct.

The traditional external procedure performed through skin incision leaving post operative scar while the endoscopic DCR can avoid scar formation with shorter time of surgery & least hospital stay post operatively.

This operation done in Hillah Teaching Hospital for the first time in IRAQ.

Nasolacrimal Sac or Duct Obstruction

Nasolacrimal Duct Obstructions are caused by trauma, dacryocystitis, dacryoliths, tumors, and idiopathic (primary acquired NLDO) as well as other factors (1). The diagnosis can be made in the office with irrigation and probing techniques. Imaging is rarely required.

Once the diagnosis of NLDO has been confirmed, treatment is a DCR. (2,3)

A case report

A 27 years old female was referred to the Ear, Nose and Throat department from the Ophthalmologist with 6 years history of epiphora on left side to exclude the nasal causes.

She had history of recurrent dacryocystitis with frequent courses of antibiotic (systemic & local), irrigation & syringing but all with temporary success until last failure after trial of probing.

After thorough ophthalmic & nasal examination including the rigid Endoscopic nasal exam. & CT scan of sinuses, all other causes of epiphora was excluded & the diagnoses of nasolacrimal duct obstruction was confirmed & the treatment modality is Endoscopic DCR.

The procedure was performed in the ENT theatre room under GA with controlled hypotensive technique to avoid excessive bleeding during surgery.

At first Endoscopic examination Of the nose done after application of local vasoconstrictive agent (oxymetazoline packing). The localization of agger nasi cell was the first step which is helped by positioning of light cable at the medial canthus directed infero-medially & posteriorly while the scope inside the nose for visualization of light reflex through the lateral nasal wall. Followed by local

xylocain 1% & adrenaline 1:100,000 injection at the following sites:

1. The root of the middle turbinate
2. The substance of the middle turbinate
3. The lateral nasal wall just lateral to the tip of the middle turbinate

- Incision:

The most important landmark for the location of the lacrimal sac is looked for i.e. Maxillary line which is a mucosal projection present in the lateral nasal wall.

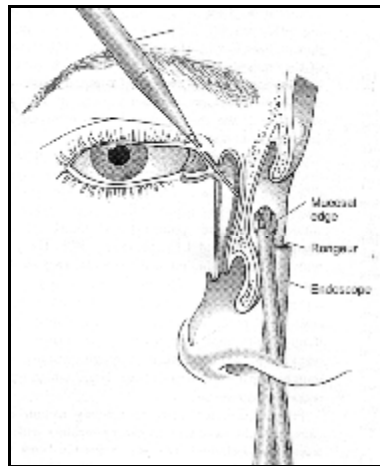
After localizing the position of the sac endoscopically, the lateral wall mucosa is incised with a sickle knife and is elevated using a Freer elevator. It will be of immense help if this incision could be

placed well anterior to the location of the sac as this will allow adequate exposure of bone. The incision is horizontal U-shape with its base attached posteriorly to the lateral wall just anterior to the middle turbinate.

After elevation the mucosa is removed using a Blakesley forceps.

- Bone removal:

The bone over the lacrimal sac area can be removed either by a punch forceps or by chiseling out the area. The sac should be exposed adequately. The position of the sac can be confirmed by applying intermittent pressure to the orbit and looking for transmitted pulsations in the lateral wall of the nasal cavity. (as seen below)



Schematic coronal section showing site of ostiotomy.

- Incising the sac:

Dilatation of the upper punctum (Image) & insertion of malleable probe down to the sac causing tenting of the medial sac wall where incision using sickle knife & widening by through cutting forceps to create window (1x1 cm).

It is better to completely remove the medial wall of the sac to ensure trouble free drainage.

Metal stents attached to silastic tubing at either end are passed through the upper and lower canaliculi and recovered through the nose with a Blakesley forceps. The metal stents are cut from the tubing, which is then stabilized to form a

continuous loop around the canaliculi. The silastic tubes are fixed inside the nose by multiple knots and nylon stitching to the inferior turbinate.

Unilateral packing with sponge soaked with oxymetazoline drops to avoid post operative bleeding.

Postoperatively, we instruct the patient not to blow the nose strenuously for 2 weeks. antibiotic eye drops are prescribed to be used 3 times daily for 10 days. Saline irrigations of the nasal cavity 3 times per day are recommended.

Follow-up care: The patient is reviewed 10 days postoperatively, and the nose is cleaned. Then regular endoscopic examinations every other week to check the ostium and the tube.

The tubing may be removed 2-6 months after surgery by cutting the exposed part at the medial canthus. The patient is then instructed to blow the nose strenuously into a paper tissue. The tubing remnants are then withdrawn through the nose with Killian nasal packing forceps.

Discussion

The endoscopic approach has several advantages:

- It provides a better aesthetic result with no external scar.
- It allows a one-stage procedure to also correct associated nasal pathology that may be the causative factor for epiphora.
- It avoids injury to the medial canthus and/or pathologic scar formation.
- It preserves the pumping mechanism of the orbicularis oculi muscle.
- Active infection of the lacrimal system is not a contraindication to surgery.
- It is especially superior to the external approach in revision surgery.
- It is much less bloody and messy than the external approach.
- Because of the facility of the approach, the perioperative time is shorter.

- The success rate is comparable to the external approach.

The disadvantages of endoscopic surgery include the following:

- It requires specialized training in nasal endoscopic surgery.
- The endoscopic equipment are expensive.

Various success rates for primary endoscopic dacryocystorhinostomy are quoted at 82-96% in the most favorable series (4) with the follow-up care range was 6-12 months.

In revision endoscopic dacryocystorhinostomy for failed primary external dacryocystorhinostomy, success rates are approximately 75% (4).

References

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3. Lyon DB, Dortzbach RK, Lemke BN, Gonnering RS. Canallcular stenosis following probing for congenital nasolacrimal duct obstruction. Ophthalmic Surg 1991;22:228-232.
4. Sprechelsen MB, Barberan MT: Endoscopic dacryocystorhinostomy: surgical technique and results. Laryngoscope 1996 Feb; 106(2 Pt 1): 187-9[Medline].

Pictures showing the steps of operation in sequence:



Picture. 1



Picture. 2



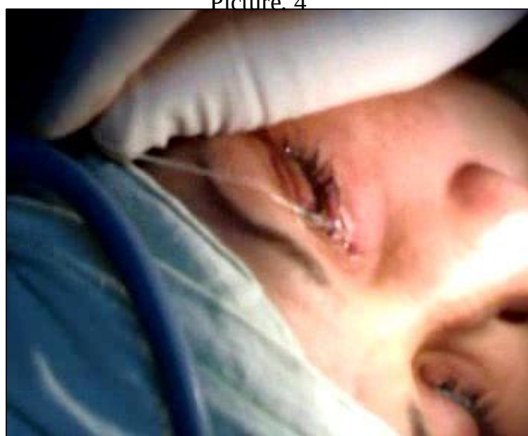
Picture. 3



Picture. 4



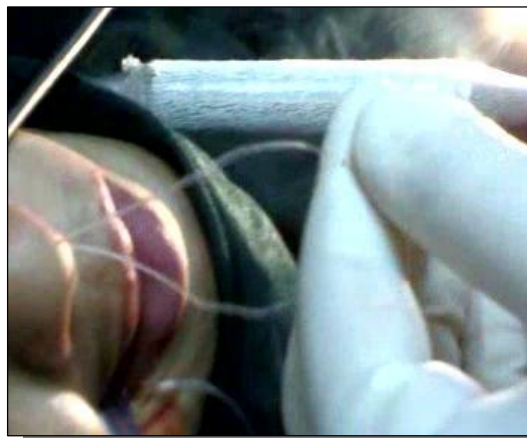
Picture. 5



Picture. 6



Picture. 7



Picture. 8



Picture. 9