

Research Article

THE STUDY OF EXTERNAL DACRYOCYSTORHINOSTOMY IN PAEDIATRIC CONGENITAL DACROCYSTITIS.

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ABSTRACT

Chronic congenital nasolacrimal duct obstruction is common issue; & management of delayed chronic dacryocystitis is important problem especially in rural or tribal areas of India. Aim was to share our experience of external dacryocystorhinostomy (DCR) in paediatric chronic dacryocystitis. This retrospective study comprised a review of 57 eyes in 55 patients in the age group four to sixteen years. All underwent external dacryocystorhinostomy (in the period between 2000-2014) using single 'U' shaped anterior flap with minimum one yr of follow up. Study involved 24 male & 31 female children; including two bilateral female cases, in 30 cases Rt. side was involved & in 27 Lt. side involved. Some cases had undergone probing in past (once/twice) but failed to relieve block were also included. Success was defined as absence of epiphora & discharge and in cooperative older children – patency after sac syringing. Results: Out of 57 eyes operated 54 cured with 94.73% success, only 3 cases failed with minimum 1 yr of follow up. Conclusion: external dacryocystorhinostomy in chronic congenital dacryocystitis is safe & effective; and strongly recommended in chronic neglected cases

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INTRODUCTION

Congenital nasolacrimal duct (NLD) obstruction is a common problem. Natural canalization or timely therapies in the form of topical antibiotics, hydrostatic pressure or probing cure most of the cases. But if this condition is neglected then chronic dacryocystitis with classical features of mucocele is the result.

Especially in the rural areas due to poverty, ignorance & difficult access to expert ophthalmic care; such conditions are not uncommon. Chronic dacryocystitis presents with persistent epiphora, discharge, swelling at medial canthus, mucocele / pyocele with positive regurgitation test. This study discusses treatment of persistent paediatric dacryocystitis cases with external DCR.

MATERIALS & METHODS:

A retrospective analysis was conducted over the period of 14 yrs 200-2014, in 57 cases who underwent external DCR.

Case selection : all paediatric chronic dacryocystitis with / without mucocele / pyocele fulfilling following Criteria -

- Age between 5yr & 16 yr
 - Persistent chronic dacryocystitis cases
 - H/o previous acute attacks with fistula
- Rejection criteria used was -

- Acute on chronic dacryocystitis,
- Age < 4yr or >16 yr
- Systemic problems (unfit for G.A)
- Severe nasal bony abnormalities

Total 57 eyes in 55 (24M / 31F) patients including 2 bilateral cases, in 30 cases Rt. side was involved & in 27 Lt side involved. Some cases had undergone probing in past (once/twice) but failed to relieve block were also included.

All the cases were completely investigated for HB, BT, CT, Urine, ENT check up, Paediatric & Anesthesia fitness. All cases were operated by one experienced surgeon under GA.

Preoperatively pediatric nasal decongestant drops (0.05% xylometazoline), Routine intubation under GA done and local infiltration with 2% lignocaine & adrenaline, nasal packing with cotton buds soaked in 4% lignocaine drops + 2% lignocaine & adrenaline drops done.

Under GA painting & draping done, incision taken 6-8 mm away from medial canthus extending 3-4mm above medial palpebral ligament (MPL) & 10mm below. Mullers retractor used for exposure. Blunt dissection & separation of orbicularis done using curved artery forcep

and lacrimal dissector till exposure of anterior lacrimal crest. Incision taken on the periosteum & medial wall of the sac is separated along periosteum & lacrimal fossa exposed. Lacrimal bone braked using blunt dissector. Bony opening approx. 10 mm done using 1.5mm&3mm sized Citellies bone punch. Medial wall of sac incised in U shaped single anterior flap after tenting with Bowman's lachrymal probe no. 00. Nasal mucosa incised similarly in U shaped single anterior flap. After haemostasis these two flaps sutured using 2/3 interrupted 5-0 vicryl sutures, a small piece of gel foam (abgel) put in to the cavity.No silicon intubation was done. Orbicularis & fascia closed with 5-0 vicryl, skin sutured with 5-0 vicryl. Nasal packing done with liquid paraffine soaked roller gauze. Post operatively nasal pack removed after 24 hrs.

Systemic antibiotics & NSAID given for 5 days, topical antibiotics (framycetin eye drops) given for 15 days & nasal decongestant drops given for seven days. Follow up done at - one week, one month, three month, six month, one year; with minimum one year follow up. Success was defined as absence of epiphora & discharge and in cooperative older children - patency after sac syringing

RESULTS

Out of 57 operated 54 cured with 94.73% success, only three cases failed; two failed within three months due to large scab in the ostium which was removed by the ENT surgeon to establish the patency.

One failed after one year & was due to membrane formation which needed endonasal revision surgery by ENT surgeon.

COMPLICATIONS

Bleeding was the most common intraoperative complication which was readily controlled with bipolar cautery, rarely use of bone wax required.

Postoperatively wound infections found in four cases which cured with stitch removal and systemic antibiotics and wound dressing with 5% povidone iodine.

DISCUSSION

Congenital NLD obstruction is a common problem seen all over the world .Natural canalization or timely therapy in the form of topical antibiotics, hydrostatic pressure or probing cure most of the cases; DCR being needed for the few persistent cases.

In adults conventional DCR with standard external approach have >90% success rate proven over 100 yrs.

Nowadays in adults & children endonasal DCR has shown promising results but availability of endonasal DCR is difficult in backward rural /tribal areas.

This study involved external DCR cases of paediatric chronic dacryocystitis in backward rural /tribal areas. The conventional external DCR approach was used in these cases without any serious complications in children (procedure was the same as that of DCR in adults) with the following steps used during study.

1. Two or three 5'0 Vicryl suture used to suture ant. flaps
2. A piece of Gelfoam (Abgel) put in the anastomosis for haemostasis.
3. Larger bony ostium approximately 1 cm diameter used without any serious complications.

Total 57 eyes in 55Patients (24M / 31F) including 2 bilateral cases underwent conventional external DCR, in 30 cases Rt. side was involved & in 27 Lt. side involved. Some cases had underwent probing in past (once/twice) but failed to relieve block were also included.

Out of 57 eyes operated 54 cured with 94.73% success, only 3cases failed with minimum 1 yr of follow up.

'Maheshwari'^[3] has reported similar (97.5%) success rate of external DCR in pediatric cases. As per 'Albert & Jacobic'^[2] risk of probing failure increases with age; doubling every six months. 'Agarwal S.'^[1] also mentioned 77 to 90% success in pediatric external DCR. 'Thomas J'^[5] reported >90% success in external DCR. 'Thomas J'^[5] & Payman^[4] advised pediatric external DCR after failure of intubation & silastic tubings respectively.

CONCLUSION

Thus we found that success rate for conventional external DCR in neglected paediatric chronic dacryocystitis is quiet good (94.73%) & we recommend it even if endonasal DCR facility is available.

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