

Topic: A Comparative Study between Conventional and Endoscopic Dacryocystorhinostomy

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Abstract: Introduction: Dacryocystorhinostomy (DCR) has been the standard procedure for acquired nasolacrimal duct obstruction. Lacrimal sac can be approached (1) **Conventional External (Ex-DCR)** or (2) **Endoscopic (EN-DCR)**

Objective : To compare success rate, complication rate between the procedures

Materials and Methods: Study design, prospective, interventional, clinical study was conducted in department of otorhinolaryngology in conjunction with ophthalmology, AMCH, Duration of study : One year, from July 2011 to June 2012, No. of cases : 60 cases (30 Endo-DCR, 30 Ex-DCR). Data were analysed by graphpad prism version 6.01 for Microsoft, Independent-sample t test & chi square test with Yates correction was applied for comparison between groups, P value of <0.05 was considered statistically significant.

Results and Observations : Total 60 (47 females, 13 males) cases randomised into 30 (27 females, 3 males) endoscopic dcr, 30 (20 females, 10 males) external dcr, Mean age (32.367) with range 18-55 yrs. in endoscopic dcr, Mean age (37.534) with range 16-66 yrs. in external dcr. **Present study shows success rate of 86.67% for En-DCR & 90% for Ex-DCR with P-value 0.557**

CONCLUSION : The present study clearly shows that En-DCR is having results comparable EX-DCR,

Keywords :

Keyword 1: En-DCR : Endoscopic Dacryocystorhinostomy

Keyword 2: Ex-DCR : External Dacryocystorhinostomy

Keyword 3: NLD : Nasolacrimal duct

I. Introduction:

Dacryocystorhinostomy (DCR) has been the standard procedure for acquired nasolacrimal duct obstruction, It is a procedure that involves creating a passage of lacrimal sac into nose bypassing nasolacrimal (nld) blockage, Lacrimal sac can be approached by (1) Conventional External (Ex-DCR) or by (2) **Endoscopic (EN-DCR)** Endoscopic DCR is a safe, fast, aesthetic procedure in 1904: Toti first described External DCR, 1893^[2,3]: Endonasal approach was first described by Caldwell Fiberoptic endoscope first used for Endo-DCR by Mc Dough & Miring in 1989^[4]. Endoscopic approach has renewed interest in past decade to correct primary and recurrent lacrimal obstruction, Objective : To compare success rate, complication rate between the procedures

II. Materials and Methods :

Study design, prospective, interventional, clinical study was conducted in department of otorhinolaryngology in conjunction with ophthalmology, AMCH, Duration of study : One year, from July 2011 to June 2012, No. of cases : 60 cases (30 Endo-DCR, 30 Ex-DCR), All the cases were examined by **ROPLAS regurgitation test, syringing, probing, DNE**, 60 cases were having nasolacrimal duct obstruction and common canalicular obstruction were included into study, **Inclusion criterion:** All cases irrespective of age, sex having Epiphora, Acute or chronic dacryocystitis Chronic dacryocystitis following nld, cc block, Patients consenting for operation **Exclusion criterion:** Suspicion of malignancy, Post traumatic lid and bony deformity Noticeable lid laxity, **No. of cases:** 60 cases were included in the study as per inclusion criterion, In all the cases detailed clinical examination, Nasal endoscopy, X-ray PNS was done, 30 cases underwent endoscopic DCR & 30 cases underwent external DCR under local anaesthesia & medical treatment pre and postoperative, **1) Subjective improvement of symptoms :** Fully satisfied, Partially satisfied, Not satisfied at all, **2) Anatomical Patency By Syringing** Follow up was done in all cases at regular interval of 1 week, 2 weeks, 3 weeks, 6 weeks, 3 months and 6 months, Data were analysed by graphpad prism

version 6.01 for Microsoft, Independent-sample t test & chi square test with Yates correction was applied for comparison between groups, P value of <0.05 was considered statistically significant.

III. Results and Observations :

Total 60(47 females,13 males) cases randomised into 30(27females, 3males) endoscopic dcr, 30(20females,10 males) external dcr, Mean age (32.367)with range 18-55 yrs. in endoscopic dcr, Mean age (37.534)with range 16-66 yrs. in external dcr.

Table No.1
Comparison Of Baseline Characteristics :

| | ENDOSCOPIC DCR | EXTERNAL DCR | P VALUE |
|---------------------------------|----------------|--------------|---------|
| (1) Total No. Of Cases N (%) | 30 (50) | 30(50) | 0.125 |
| (2) Age (yrs.)(Mean+-S.D.) | 32.367 | 37.534 | |
| (3) Gender | | | |
| Male | 4 | 10 | |
| Female | 26 | 20 | |

TABLE-2:COMPARING OUTCOME :

| SYRINGING | ENDOSCOPIC DCR | EXTERNAL DCR | P VALUE | SATISFACTION LEVEL |
|---|----------------|--------------|---------|--|
| PATENT N(%) | 24(80%) | 26(86.67) | 0.557 | Fully Satisfied |
| Partial Block With Clear Fluid Regurgitation N(%) | 2 (6.67%) | 1(3.34%) | | Symptomatically relieved therefore satisfied |
| Complete Block N(%) | 4(13.34%) | 3(10%) | | Not relieved of symptoms so not satisfied |

TABLE 3 : AVERAGE TIME TAKEN FOR SURGERY :

| Procedure | Time take | P-Value |
|-----------|-----------|---------|
| En-DCR | 45 Miins. | 0.001 |
| Ex-DCR | 75 Mins | |

COMPLICATIONS

Ex-DCR:

Hypertrophied scar -2(6.67%) ,closure of ostium-2(6.67%)

En-DCR:

Nasal synechia formation-1(3.34%) , Granulation at ostium-1(3.34%)

IV: Discussion:

Present study shows success rate of 86.67% for En-DCR & 90% for Ex-DCR with P-value 0.557

| Series | En-DCR | Ex-DCR | P-Value |
|-------------------------|--------|--------|---------|
| Hatikainen et al (1998) | 89.1% | 90.2% | 0.914 |
| Cokesser et al (2000) | 88.2% | 89.2% | |
| S.Devis et al(1999) | 100% | 93.2% | |

Revision surgery was done in all recurrent cases & stenting done ,Stent removal done after 3 months , On follow up patients were patent on syringing & symptomatically improved, Duration of surgery was approx. **45 mins in endoscopy DCR** group as compared to **75 mins. in conventional external DCR** group with **P value of 0.01** which was statically significant , This was in conformity with study of J.Hartikainen (2003) with mean time 34.5 mins for external DCR and 18.5 mins. for endoscopic DCR with P value 0.0001

V. Conclusion:

The present study clearly shows that En- DCR is having results comparable EX-DCR , with added advantages of ,Aesthetic results with no external scar,Correction of associated nasal pathology, Preservation of lacrimal pump,Reduced operating time,Further research is needed in the subject.

References:

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Instruments used in endo-dcr :



Steps of endo-dcr

