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A study to evaluate the effectiveness of conventional DCR and DCR implant method in chronic dacryocystitis

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Abstract

Background: Dacryocystitis is inflammation of the lacrimal sac and nasolacrimal duct. It is a common clinical entity causing troublesome and conspicuous symptoms. It has tendency to recur and persist until definitive surgical treatment is performed. The present study was conducted to evaluate the effectiveness of conventional DCR and DCR implant method in chronic dacryocystitis.

Material and methods: The present comparative study was conducted among 160 patients over a period of 1 year. A detailed history was noted. Depends on the investigations and fitness patient was operated by conventional D.C.R or D.C.R implants. The 50 cases were divide into two groups; Group A consisting of 80 cases which underwent conventional DCR technique whereas Group B consisting of 80 cases those were underwent Pawar's implant DCR. Data regarding post-operative complications were analyzed. Results were expressed in percentage and p value less than 0.05 was considered as statistically significant.

Results: In the present study total patients included were 160 in which 64.37% were males and 35.62% were females. Maximum patients were of age group 31-40 years (57.5%). In group A i.e. Conventional DCR the post-operative complications were Lip odema in 7.5% patients, incisionl odema in 10% patients, haemorrhage from nasal mucosa in 5% patients, wound gape in 2.5% patients, obstruction of passage in 7.5% patients, Hypertrophic scar in 12.5% patients, Sac infection in 0% patients. In group B i.e. Implant DCR the post-operative complications were Lip odema in 0% patients, incisionl odema in 5% patients, haemorrhage from nasal mucosa in 0% patients, wound gape in 0% patients, obstruction of passage in 8.75% patients, Hypertrophic scar in 3.75% patients, Sac infection in 3.75% patients. Post complications were less with Implant DCR.

Conclusion: This study concluded that post complications were less with Implant DCR than conventional DCR.

Keywords: Dacryocystitis, conventional DCR, implant DCR

Introduction

Dacryocystitis is the infection of lacrimal sac most often as a result of obstruction of nasolacrimal duct ^[1]. This disease may be acute or chronic. Watering from the eye is the presenting complaint of chronic dacryocystitis ^[2]. Nasolacrimal duct obstruction is one of the commonest diseases affecting the lacrimal drainage system. Persistent tearing, mucous or mucopurulent discharge from the lacrimal puncti, chronic conjunctivitis, and swelling of the lacrimal sac in the medial canthal area (acute or chronic dacryocystitis) are the symptoms that patients may experience due to nasolacrimal duct obstruction ^[3, 4]. Dacryocystitis usually affects two age groups- infants (congenital) and adults (acquired). Congenital dacryocystitis is almost always chronic, while acquired dacryocystitis may be acute, chronic or acute-on-chronic. Chronic dacryocystitis is more common than acute dacryocystitis. Dacryocystitis affects preferentially adults over middle life, being relatively rare in children and adolescents. The highest incidence is in the fifth decade, but it also occurs in advanced age ^[5]. Dacryocystorhinostomy is the treatment of choice for chronic Dacryocystitis, in which lacrimal sac is anastomatised with nasal mucosal flap by bypassing Nasolacrimal Duct. In DCR surgery long surgical procedure, discomfort (pain), Intra-operative hemorrhage is common complications. To avoid these complications and make surgery simple, quick, effective, less pain full, Dr. M. D. Pawar from Nagpur modified the surgery with introduction of intracystic silicone implant between lacrimal sac and nasal cavity ^[6, 7]. The present study was conducted to evaluate the effectiveness of conventional DCR and DCR implant method in chronic dacryocystitis.

Material and Methods

The present comparative study was conducted among 160 patients over a period of 1 year. Before commencement of the study ethical approval was taken from the Ethical Committee of the institute and informed consent was obtained from the patients. Patients with the complaint of watering, pus discharge and diagnosed as chronic dacryocystitis were included in the study. Patients having obstruction of upper and/ or lower canaliculus or the common canaliculus, patients with nasal pathology causing obstruction of the NLD, and patients with bleeding disorders, were excluded from the study. A detailed history of symptoms, associated diseases of nose and sinuses were noted and local examination of lacrimal excretory system, nose and sinuses under specific details were conducted. Radiological examination of PNS by X-ray, Schirmer test and dacryocystogram was performed based on necessity. A complete haemogram, cardiovascular examination and respiratory examination was performed. Depends on the investigations and fitness patient is operated by conventional D.C.R or D.C.R implants. The 160 cases were divide into two groups; Group A consisting of 80 cases those were underwent conventional DCR whereas Group B consisting of 80 cases which underwent Pawar's implant DCR technique. Data regarding post-operative complications were analyzed. Results were expressed in percentage and p value less than 0.05 was considered as statistically significant.

Results

In the present study total patients included were 160 in which 64.37% were males and 35.62% were females. Maximum patients were of age group 31-40 years (57.5%). In group A i.e. Conventional DCR the post-operative complications were Lip odema in 7.5% patients, incisionl odema in 10% patients, haemorrhage from nasal mucosa in 5% patients, wound gape in 2.5% patients, obstruction of passage in 7.5% patients, Hypertrophic scar in 12.5% patients, Sac infection in 0% patients. In group B i.e. Implant DCR the post-operative complications were Lip odema in 0% patients, incisionl odema in 5% patients, haemorrhage from nasal mucosa in 0% patients, wound gape in 0% patients, obstruction of passage in 8.75% patients, Hypertrophic scar in 3.75% patients, Sac infection in 3.75% patients. Post complications were less with Implant DCR.

Table 1: Demographic data

Variables	N (%)
Gender	
Male	103 (64.37%)
Female	57 (35.62%)
Age group (Yrs.)	
20-30	45 (28.12%)
31-40	92 (57.5%)
41-50	23 (14.37%)

Table 2: Postoperative complications

Variables	Group A (Conventional DCR) n (%)	Group B (Implant DCR) n (%)
Lid odema	6 (7.5%)	0 (0%)
Incisional odema	8 (10%)	4 (5%)
Hemorrhage from nasal mucosa	4 (5%)	0 (0%)
Sac infection	0 (0%)	3 (3.75%)
Wound gape	2 (2.5%)	0 (0%)
Obstruction of passage	6 (7.5%)	7 (8.75%)
Hypertrophic scar	10 (12.5%)	3 (3.75%)

Discussion

D.C.R (Dacryocystorhinostomy) is the preliminary choice of surgical procedure for chronic dacryocystitis which involves removal of bone adjacent to the nasolacrimal sac and incorporating the lacrimal sac with the lateral nasal mucosa in order to bypass the nasolacrimal duct obstruction [8].

In the present study total patients included were 160 in which 64.37% were males and 35.62% were females. Maximum patients were of age group 31-40 years (57.5%). In group A i.e. Conventional DCR the post-operative complications were Lip odema in 7.5% patients, incisionl odema in 10% patients, haemorrhage from nasal mucosa in 5% patients, wound gape in 2.5% patients, obstruction of passage in 7.5% patients, Hypertrophic scar in 12.5% patients, Sac infection in 0% patients. In group B i.e. Implant DCR the post-operative complications were Lip odema in 0% patients, incisionl odema in 5% patients, haemorrhage from nasal mucosa in 0% patients, wound gape in 0% patients, obstruction of passage in 8.75% patients, Hypertrophic scar in 3.75% patients, Sac infection in 3.75% patients. Post complications were less with Implant DCR.

In a study conducted by Reddy *et al.*,^[9] peak incidence was in the 3rd decade.

Duggal *et al.*,^[10] reported maximum incidence of chronic dacryocystitis in 5th to 6th decade of life.

Duggal *et al.*,^[10] found 88% chronic dacryocystitis incidence in females in their study.

Duke-Elder mentioned 75% to 80% dacryocystitis incidence in females^[11].

Hypertrophic scar was the most common postoperative complication found in conventional DCR surgery. This is probably due to larger incision in comparison to Pawar's implant^[9].

Conclusion

This study concluded that post complications were less with Implant DCR than conventional DCR.

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