Original Article

A Review of 144 Cases of Dacryocystorhinostomy

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Purpose: To determine the surgical outcome of blocked lacrimal pathway.

Material and Methods: This is a retrospective study of 144 patients admitted in Naseer Teaching Hospital Peshawar from January 2005 to December 2007.

Results: The age of the patients was in range from 06 to 60yrs. 45(31.25%) were male and 99(68.75%) were female. All of these cases were unilateral. 134(93.05%) of the total patients were operated under local anesthesia and the rest 10(6.94%) were under general anesthesia. The overall success rate was 62.5% in intubated patients and 93.75% without intubation

Conclusion: External dacryocystorhinostomy is still the cheapest and effective surgical procedure.

Watering and pus discharge is an annoying symptom of a patient who is suffering from blocked lacrimal pathway. The condition is characterized by positive regurgitation test, matting of the eye lashes and conjunctivitis. Some time the condition get worse to acute form and result in pain and swelling. This subsides with the use of systemic antibiotics and analgesic but this is not the permanent solution of the disease. In children the disease occurs because of the delayed canalization of the lacrimal pathway. The obstruction could be in the various regions of the lacrimal pathway like the canalicular and nasolacrimal duct. The procedure of choice to cope with most of these conditions is dacryocystorhinostomy. The operation was first introduced by Toti[1] in 1942 and modified by Bourguet[2]. All these patients initially follow medical treatment but the ultimate option is surgical management.

MATERIAL AND METHODS

This is a retrospective study of 144 patients admitted in Naseer Teaching Hospital Peshawar from January 2005 to December 2007. The common complaints of these patients were discharge from the affected eye. All these patients were hospitalized and detailed clinical examinations were carried out. The site of obstruction was evaluated with regurgitation and lacrimal sac irrigation test. Other diagnostic procedure

like dacryocystography and Jones test were not performed. Viral profile was carried out before surgery. Most of the operations were carried out under local anesthesia using xylocaine 2% and also injected locally in those patients who underwent general anesthesia. This was done to avoid bleeding during surgical procedure. A nasal packed soaked with 4% xylocaine and two vials of injection adrenaline was applied in ipsilateral nasal cavity in almost all cases. About 02 cm vertical skin incision was given 8mm anterior to respective medial canthus and lacrimal fossa exposed. About 01cm circumferential bony window made between lacrimal fossa and middle meatus of the nasal cavity. Nasal mucosa and lacrimal sac opened and flaps were made. Anterior flap of the nasal mucosa and lacrimal sac were sutured using 4/0 catgut or 6/0 vicryl. Post operative medications included systemic antibiotics, analgesic and tranxaminic acid. Each patient discharged from the hospital after 24 hours postoperatively and was reviewed for syringing two days postoperatively in non intubated patients. In cases, where intubation was done, the lacrimal tube was removed after 06 months of surgery. The success criteria were absence of watering and patency of lacrimal pathway on syringing.

RESULTS

This study include 144 patients in which 45(31.25%) were male and 99(68.75%) were female (Table 1). The age of the patients was between 06 to 60 years with 82% of cases between 31 and 40 years (Table 2). Unilateral cases were selected in all these patients. Primary surgery was done in 138(95.83%) and secondary surgery was in 06(4.10%) patients. The commonest indication was chronic dacryocystitis, 131(90.97%). This is followed by mucocele, 09(6.25%) and canalicular obstruction 04(2.77%) (Table 3). Most of the patients were operated under local anesthesia, 134(93%) and only 10(6.94%) were under general anesthesia. 80(55.5%) patients were intubated and 64(44.4%) were without intubation.

After 6 months follow up the success rate in intubated patients were in 50 (62.5%) and failure were in 30(37.5%).

The success rate in non intubated patients were 60(93.75%) and failure were in only 04(6.25%).

DISCUSSION

External DCR, endoscopic DCR[3], endoscopic laser nasal DCR[4,5], dacryocystoplasty and endoscopic radiofrequency assisted DCR[6] are the various procedure used to relieve lacrimal passage obstruction. The recent procedure is the endoscopic DCR, has the advantage of elimination of scar, preservation of canthal anatomy, bleeding, pain and morbidity but the disadvantages are the cost and lack of surgical skill[7].

In a study the success rate of external DCR was compared with endonasal endoscopic DCR, it was found that the success rate at one year after surgery was 75% for endonasal endoscopic DCR and 91% for external DCR[8]. In our study the success rates of external DCR with lacrimal tube intubation was 62.5% and without intubation it was 93.75%, this mean that the external DCR is still an effective procedure for chronic dacryocystitis.

In our study the male were half, 45(31.35%) of the female, 99(68.75), the reason could be that the sac problems are more in female than male[9]. An anatomical reason for female predominance is narrow lumen of the bony canal, which was found to be the commonest site of obstruction in female[10]. In our study more than 90% of the patients were suffering from chronic dacryocystitis and the commonest site of obstruction was the naso lacrimal duct.

Table-1:

Gender	**No of patient's n (%)**
Male	45(31.25)
Female	99(68.75)

Table-2:

Age	**No of patient's n (%)**
06-20	12(8.30)
21-30	17(11.80)
31-40	82(56.94)
41-50	31(21.50)
> 50	02(1.38)

Table-3:

Disease	**No of patient's n (%)**

CDC	131(90.90%)
Mucocele	09(6.25%)
Canalicular obstruction	04(2.77%)

In a study by Ali A[11], 92% of patients were operated under general anesthesia, while in my study 93% of the patients were operated under local anesthesia keeping in mind the advantage and feasibility for most of these patients. The same was true for Hurwitz study, a total of 120 patients, 98(81%) were operated under local anesthesia and 22(18.3%) were under general anesthesia[12].

In one of the study, soft tissue infection was found to occur in approximately 08% of the patients who did not receive systemic antibiotics after surgery[13], so it was recommended to use systemic antibiotics to reduce the risk of infection. In our study all the patients were given amoxicillin- clavillinic acid for 07 days.

In patients without intubation we performed syringing on the second post operative day to know about the patency of the lacrimal passage and in intubated patients after the removal of tube 06 months of surgery. It has been noted by other colleagues as well that syringing in the first week is recommended for the success of the procedure. This was true in our study that the success of surgery was more than 93% in patients without intubation, as syringing has been done in the first week while the failure rates in intubated patients was 37.5%, as syringing was not possible.

30 (37.50%) out of the total 80(55.50%) of the intubated patients resulted into failure. Most of the failures were noticed during the first 02-03 months of the surgery. The possible causes of failure could be due to the use of 4/0 catgut and silicon tube in the early procedures, to which the body showed lot of reaction. Moreover silicon tubes available in the market were of low quality and the material was not pure. As this study has been conducted in one of the teaching hospital draining various parts of NWFP and eastern Afghanistan and most of the patients are very poor, so they could not buy the good quality suture material and silicon tube.

In patients where 6/0 vicryl were used as a sutural material showed less reaction and less failure, so the use of catgut was then abandoned. In pure cases of chronic dacryocystitis the use of bodkin tube was abandoned as well, this improved the success rate dramatically (93.75%).

Bodkin tube prolapse is not unusual and some time it become difficult to reposit it[18].This dislodgement might be because of unsecured tube or the patients in this region are repeatedly looking in the mirror and pulling the lower lid to note the position of the tube.

Hopkisson secured the tube with a sleeve and observed tube prolapse only in one case out of his 47 patients series[19]. In order to prevent this complication the tube was secured to nasal mucosa using 4/0 black silk, but it was observed that the knot of 4/0 black silk slip away within two weeks in most of the cases and the tube was left hanging freely.

Some time in cases of prolapse tube the reposition of the tube become difficult. Two of the prolapse tube was removed and syrining showed the failure of the procedure. The cause of failure of reposition of the tube was the obstruction of osteotomy site by the granulation tissue after reopening these cases.

Known causes of failure of dacryocystorhinostomy are obstruction of common canaliculi, closure of the osteotomy site, retained stent material and excessive scar formation within the rhinostomy[14,15]. The failed cases were reopened, it was found that the cause of failure was the closure of the osteotomy by the granulation tissue. In majority of the cases the canalicular system remained opened. Various techniques were used to reduce the chance of failure in dacryocystorhinostomies including the use of mitomycin C[16,17].

CONCLUSION

1. External dacryocystorhinostomy is still the most effective procedure for the patients with epiphora.
2. Intubation is not recommended in case of naso lacrimal duct obstruction.
3. Syringing is recommended on the second postoperative day, provided inflammation has been subsided.

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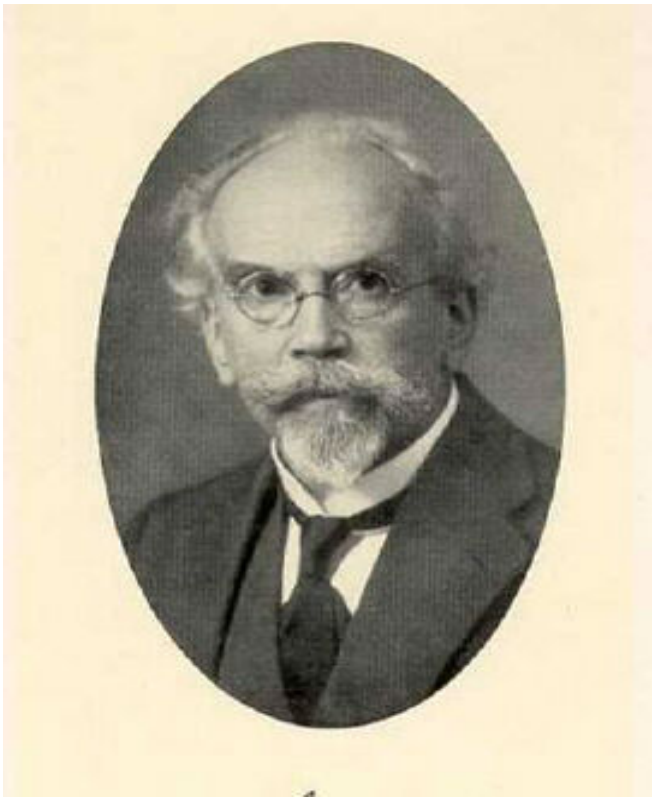
Guess who?



See next issue for answer