

A study of clinico Pathological Correlation of Naso lacrimal duct obstruction

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Abstract:

Objective: To study the age and the sex distribution among the primary and secondarily acquired Nasolacrimal duct obstruction .

Methods: we conducted a prospective observational study among randomly selected 100 patients presented with epiphora to ENT department during 2year period ie; from march 2013-march 2015. After confirming presence of Nasolacrimal duct obstruction (NLDO) by ophthalmologicalexamination ,theyare takenup for Endo nasalDacryocystorhinostomy and intraoperative lacrimal sac wall biopsy is taken for histopathology to identify the etiology of NLDO. Age and sex distribution among primary and secondarily acquired types of NLDO was studied .

Results: Among primary and secondarily acquired variants of NLDO , it was found to be more common in females when compared to males (male : female =1:6.13). Primary acquired duct obstruction is more common among elderly age group (51-60 yrs) , and NLDO is found to show left eye lacrimal system predilection (58%) when compared to right eye.

Conclusion: Epiphora due to Primary acquired naso lacrimal duct obstruction (PALDO) is commonly seen in elderly age group , and commonly associated with bilateral NLDO (30%). Among younger adults, secondarily acquired obstruction (SALDO) are common .NLDO is more common among females.

Keywords: Primarily Acquired NLDO,NLDO , Secondarily Acquired NLDO ,Lacrimal duct Obstruction.

I. Introduction

NLDO can be either congenital or Acquired .obstruction of NLD leads to excess flow of tears called Epiphora. Congenital is often due to imperforate membrane at valve of Hasner[1].Acquired causes [1] could be due to -

- Involutional stenosis probably most common cause of NLD in older persons .it affects twice as common in women than men.inciting event is unknown but clinico path study suggests compression of lumen of NLD by inflammatory infiltrates and edema .this is result of an unidentified infection or possibly an autoimmune disease
- Dacryolith or cast formation within lacrimal sac- obs of NLD
- Sinus disease often occurs in conjunction with or in other instances may develop NLD.patients should be asked for prev sinus surgery as NLD may be damaged when enlarging max sinus ostium
- Trauma-naso –orbital #- early treatment by # reduction with stenting of entire lacrimal drainage system is required .but such injuries are often not recognised – late treatment of persistantepiphora require DCR
- Inflammatory disease- granulomatous disease like sarcoidosis ,wegener’sgranulomatosis ,&Midline granuloma
- Lacrimal plugs- dislodged punctal&canalicular plugs can migrate to & occlude NLD
- Neoplasm –considered in pts with atypical presentation including younger age ,malegender,further workup is essential.bloodypunctal discharge or lacrimal sac distension above the medial canthal tendon is also highly suggestive of neoplasm.

Idiopathic inflammatory stenosis or Primary acquired nasolacrimal duct obstruction(PANDO) most likely affects middle aged and elderly women[2]. A technique of excisional biopsy of soft tissue contents within Nasolacrimal duct (NLD) during external Dacryocystorhinostomy (DCR) is presented.Biopsies revealed a spectrum of changes that correlated with duration of symptoms.Early cases revealed active chronic inflammation along the entire length of NLD.Intermediate cases revealed focal resolution of the inflammatory process with fibrosis,while late cases showed fibrous obliteration of entire duct.Although the first event in PANDO remains uncertain ,clinicopathologic correlation suggests that compression of duct by inflammatory infiltrates and edema precedes clinical chronicdacryocystitis[2]. Obstruction may be secondary to Trauma

,infection ,inflammation,neoplasm or mechanical obstruction,the Secondary acquired Lacrimal Drainage Obstruction (SALDO)[3].Nasolacrimal Duct obstruction (NLDO) leads to excess flow of tears called Epiphora. Distal obstruction converts lacrimal sac into stagnant pool, which easily becomes infected leading to chronic dacryocystitis with epiphora and purulent discharge [4].

Dacryocystorhinostomy(DCR) is treatment of choice for most patients with acquired NLDO.Surgical indication include recurrent dacryocystitis,chronicmucoireflux,painful distension of lacrimal sac and bothersome epiphora [1].It is however noticeable that many people tolerate NLDO for many years without clinical infection representing simple stenosis of lacrimal duct(SSLD) [5].

Dacryocystorhinostomy is usually standard approach to treat epiphora caused by lower lacrimal tract obstruction.when pathological condition lies in upper lacrimal passage ,however,alternate bypass or reconstructive options must be considered.Conjunctivodacryocystorhinostomy using jones tube can effectively bypass upper tract,but the technique may be complicated by granulation tissue formation,infection from unopposed mucosal flaps ,and ineffective passage of tears through scar as a result of healing by secondary intension. Conjunctivorhinostomy provides total lacrimal bypass and has advantages of bipediced mucosal flap apposition ,temporarystenting,and symptomatic improvement of epiphora[6].

One of problems with conventional Jones tube is that the end of jones tube has to be manipulated by the surgeon so that the tube resides within the nasal cavity while not touching the middle turbinate and septum.highDNS,paradoxical middle turbinate have inadequate space in nasal cavity.so, require septoplasty and turbinectomy prior to conjunctivorhinoplasty.To overcome this problem, author connected a 4 French rubber tube to the tip of jones tube.This helps the tube to reside within the nasal cavity without foreignbody reaction and granulation tissue complication.There is no need to change the tube to make up for loss of tube length because of post op tissue contracture[7]. The present techniques of conjunctivorhinostomy require perforation of frontal process of maxillary bone to open a passway between conjunctival sac and nasal fossa.a relatively complex operation and horizontal conduit is left ,whose flow is rarely good.A new technique of conjunctivorhinostomy obviates necessity for osseous perforation by passing a tube beneath soft tissues of face just superficial to maxillary bone between lacrimal lake and nasal atrium.external diameter of tube is never more than 2mm to avoid elevation on surface of face.the almost vertical position of tube and placement of internal opening in zone of maximal respiratory flow ensure good drainage of tears [8].

Aims And Objectives: To study the Age and sex distribution of patients of primary and secondarily acquired Nasolacrimal duct obstruction .

II. Material

Among Patients coming to KIMS Hospital , Narketpally , ENT department with complaints of Epiphoraduring the period of 2 yr period (ie; between March 2013 to March 2015) , 100 cases of Nasolacrimal duct obstruction are randomly selected for study. They are grouped according to etiology and Age.

Type Of Study: Observational study.

Type Of Sampling: Random sampling.

Criteria Of Selection:

Inclusion criteria :Random selection of patients coming to KIMS Hospital , Narketpally , ENT department with complaints of Epiphora between age groups 20-60 yrs. Cases of epiphora are evaluated for Nasolacrimal duct obstruction

Exclusion criteria :

- Absconded patients.
- Patients refusing Admission or consenting for surgical intervention.ct obstruction
- Patients with other causes of epiphora except nasolacrimal duct obstruction are excluded

Methods:

1. The study group of patients are selected randomly from those who presented with epiphora to ENT out patientdepartment.They are evaluated for presence of Naso lacrimal duct obstruction (NLDO) and those requiring admission are admitted for management.
2. All admitted patients of NLDO are subjected to routine tests like-
 - Clinical examination
 - Complete blood picture with total leucocyte count and platelet count and Bleeding and Clotting time estimation
 - Erythrocyte Sedimentation tests

- Renal function tests like Blood urea and Serum creatinine
 - Random blood sugar
 - X –Ray Paranasal sinuses
 - Diagnostic nasal endoscopy using 0 and 30 deg scopes
 - HIV and HbsAg test
3. All study cases are sent for ophthalmology referral for confirmation of NLDO by syringing and probing of lacrimal apparatus .
 4. All study cases are taken up for Dacryocystorhinostomy surgery and intra operative lacrimal sac biopsy was taken and sent for histopathological examination to know the etiology of NLDO .

III. Results/ Observations

In the present study 100 cases of epiphora with confirmed NLDO ,referred to ENTout patient department ,were studied during the period of 2 years from March 2013 to March 2015.

I.Age And Sex Variation:

This study shows the following observations:

Sex variation among the study group (100 cases) include

Male : Female = 14 : 86 = 1:6.13 ie ; common in females.

Here the majority of cases (42) were in the age group of 31-40yrs.Bilateral NLDO is found more in elderly age group (51-600 yrs.

Chart –I :

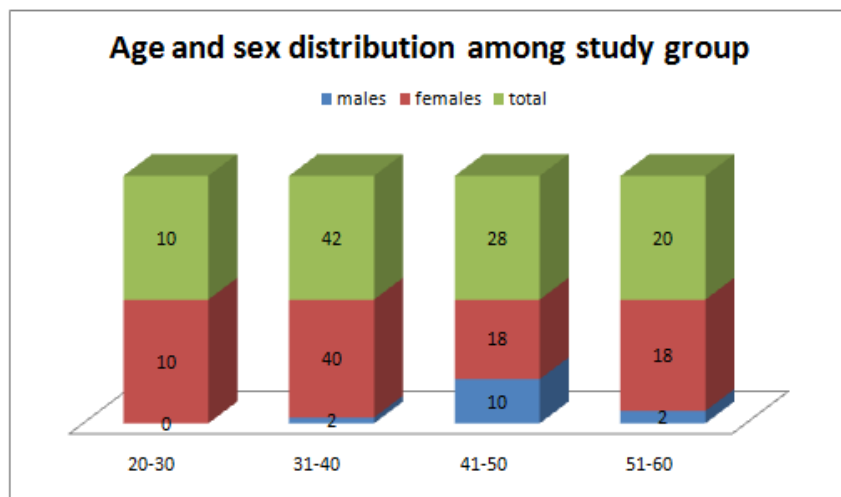
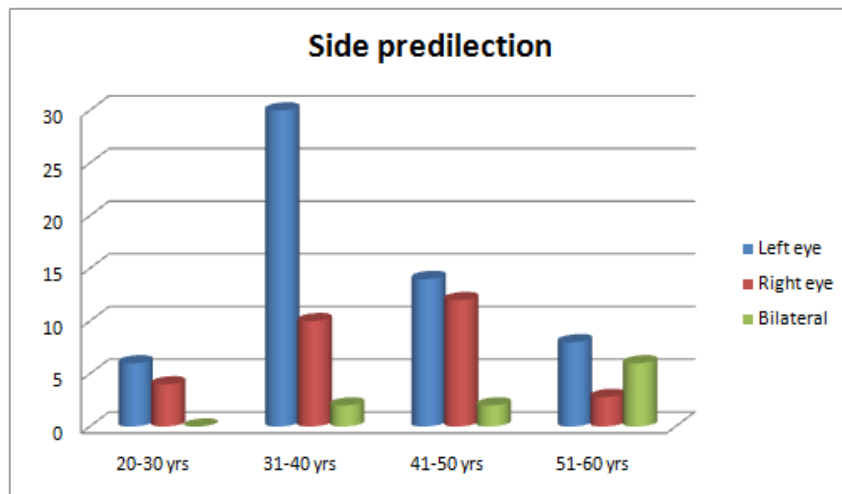
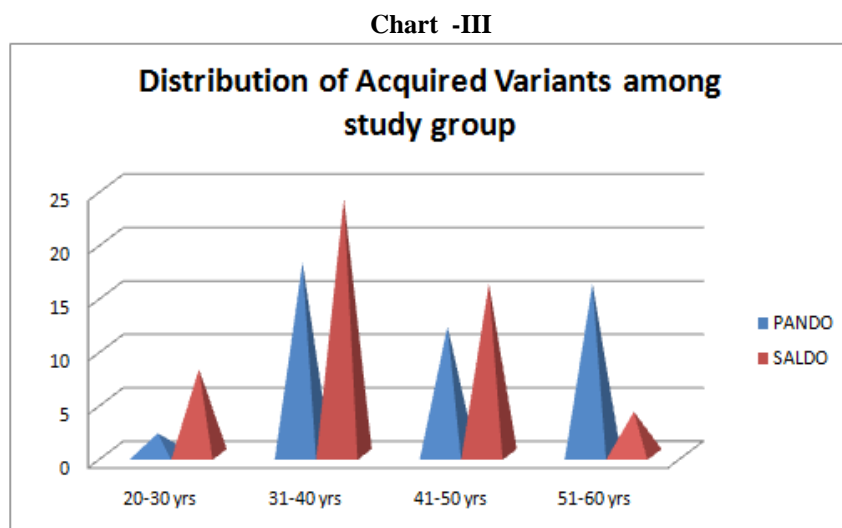


Chart -II



This chart depicts left lacrimal system predilection among all age groups .Bilateral disease is seen among elderly age group.



Secondarily Acquired NLDO (SALDO) is more common among middle age group (31-40 yrs).Primarily Acquired NLDO (PANDO) is common among elderly age group (51-60 yrs).

Summary

In the present study ,100 patients are chosen randomly from ENT out patient departments of KIMS Hospital ,Narketpally with complaint of Epiphora and presence of NLDO is confirmed by ophthalmological referral.Age and sex distribution among various etiologies of NLDO was studied by history and histopathology of intraoperative biopsy specimens of lacrimal sac wall during Dacrocystorhinostomy . NLDO was found to be more common in females when compared to males (male : female = 1 : 6.13). Secondarily acquired NLDO (SALDO)was found to be the most common etiology among middle age group and Primarily Acquired NLDO (PANDO) was common among elderly age group . Bilateral NLDO is common (30%) among elderly age (51-60 yrs) and they are usually PANDO. .In our study group PANDO was more common (52%) than SALDO (48%). NLDO showed left eye lacrimal system predilection .

To conclude NLDO among elderly age group is usually due to idiopathic type ie ; PANDO. Among middle age group SALDO is more common.

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