



A CROSS-SECTIONAL STUDY OF CHRONIC DACRYOCYSTITIS AMONG THE STUDY POPULATION IN NORTHERN INDIA ATTENDING VARIOUS HEALTH INSTITUTIONS AT SECONDARY AND TERTIARY LEVEL.

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ABSTRACT

BACKGROUND: Chronic dacryocystitis which is an inflammation and infection of lacrimal sac is a leading cause of ocular morbidity in India. Out of many etiological factors of chronic dacryocystitis, poor hygiene and allergy have a major contribution to the disease development.

AIM: The aim is to find out occurrence of dacryocystitis in patients belonging to various socioeconomic groups and to correlate dacryocystitis with socioeconomic status.

MATERIAL AND METHODOLOGY: The present study is cross sectional study carried out in a secondary & tertiary health care centre of North India.

RESULTS: A total of 226 cases were studied, of which 96 (42.48%) were males and 130 (57.52%) were females. Our study shows highest incidence of chronic dacryocystitis among people in the 50-59 yrs of age group (45.15%). The Right side was affected in 100 cases (44.25%) & left side was affected in 80 (35.40%) while 46 cases (20.35%) had a bilateral disease. Maximum number of patients (120) of our study belong to Class IV & Second largest group of patients (50 cases) belong to class III

Conclusion: Most of the people consider watering from eyes as minor discomfort and avoid themselves from presenting to ophthalmologist as they are unaware of the deleterious complication. Therefore this subject needs an extensive study and awareness to solve the enigma of chronic Dacryocystitis in the people of low socioeconomic group with poor hygiene and low standard of living.

KEYWORDS : Chronic Dacryocystitis, Epidemiology, Socioeconomical.

INTRODUCTION

Dacryocystitis is an inflammation and infection of lacrimal sac located between the medial canthus of the eye and nose. Obstruction of nasolacrimal duct causes the obstruction to the flow of tears from the eye to the nose leading to the bothersome symptoms of epiphora. Abnormalities of tear drainage may be subdivided into functional and anatomical. Anatomical obstruction may occur at any point along the lacrimal drainage pathway may be congenital or acquired. The acquired nasolacrimal duct obstruction is of two types: Primary or Secondary. Primary acquired nasolacrimal duct obstruction is an obstruction caused by inflammation of unknown cause that eventually leads to fibrosis. Secondary acquired lacrimal drainage obstruction may result from a wide variety of infections, allergies, inflammatory, neoplastic, traumatic or mechanical causes.(1)

The lacrimal drainage system consists of the puncta which are the opening to the upper and lower canaliculus. These meet at the common canaliculus and open into the lacrimal sac. This runs parallel to the nose and is separated from the middle meatus by two thin plates of bone. It continues down to become the nasolacrimal duct which opens into inferior nasal meatus. Acquired Dacryocystitis occurs in two forms: acute, and chronic. Patient with chronic Dacryocystitis may remain asymptomatic or have watering, discharge from the eye and swelling at lacrimal region.(2)

Untreated Dacryocystitis never undergoes spontaneous resolution. It tends to progress as wall of the sac become atonic and contents can be evacuated only by the external pressure(3). Acute Dacryocystitis may lead to lacrimal abscess. If untreated it may cause unilateral chronic conjunctivitis, corneal ulcer, lacrimal abscess, fistula and panophthalmitis may occur if any intra ocular surgery is performed in presence of unrecognized Dacryocystitis(4). Other complications are orbital cellulitis; cavernous sinus thrombosis and orbital thrombophlebitis(4). Most of the people consider watering from eyes as minor discomfort and avoid themselves from presenting to ophthalmologist as they are unaware of the deleterious complications. With the extensive search in literature, we haven't found any study of Dacryocystitis correlated with socioeconomic status.

There are various epidemiological factors that contribute to dacryocystitis which include race with black race having predominance and its more common in females than males.(1) It commonly occurs in two discrete age categories- infants and older than 40 years. It is commonly encountered by ophthalmologist accounting for 87.1% of epiphora which causes social embarrassment due to chronic watering from eyes.(1) It is more commonly found in low socioeconomic strata. Although with extensive search in literature there are hardly any studies of Dacryocystitis correlated with the socioeconomic status. According to Gillil GD et al there is higher incidence among people of lower socioeconomic status.(3) There is a huge list of etiologies of dacryocystitis which includes many nasal conditions like sinusitis, rhinitis, trauma, tumors, atrophic rhinitis, eczemas of nares, enlarged inferior turbinate, foreign bodies, nasal septal abscesses and deviations, ethmoid mucocele, etc. Post surgery especially after Caldwell Luc operation, Lautenschlager-Halle ozena operation, radical maxillectomy, ethmoidectomy, etc. Lacrimal sac tumors like lymphoma, fibroepithelioma, transitional cell carcinoma, lymphoblastoma, nurilemoma, angiosarcoma, hemangiopericytoma, pseudotumor, melanoma, metastatic carcinomas, and benign polyps can also present as dacryocystitis.

Occupational history is important where in the people working in factories with lot of smoke, fumes and irritants are there and proper protective measures are not there. In rural India one of the most common modes of cooking is still Chulla has wherein the female population is exposed to the fumes and the irritants of the charcoal. Various studies are available in Indian literature on various methods of management of Dacryocystitis but very few studies done on the epidemiological factors contributing to Dacryocystitis in Indian population. The goal of the present study was to create awareness of chronic Dacryocystitis in view of morbid condition and to correlate it with socioeconomic status. It's early diagnosis and treatment is always warranted to avoid complications and need for surgical intervention

MATERIAL & METHODOLOGY

The Study comprises of 226 cases of CDC including all age groups within both sexes The patients presenting to outpatient department

belonging to inclusion criteria are interrogated for the following details.

1. Demographic profile (Name, Age, Sex, Occupation and Address) --All the patients falling under our inclusion criteria were enrolled for the study. Their name, age, sex, residence and occupation were recorded.
2. Socioeconomic status (according to Revised B.G. Prasad's classification,2018)⁵

TABLE 1: Revised B.g. Prasad's Classification Of Socioeconomic Status

SOCIO-ECONOMIC CLASS	B.G.PRASAD'S CLASSIFICATION OF 1961	REVISION OF B.G. PRASAD'S CLASSIFICATION OF 2018
I	Rs 100 above	Rs 6574 & above
II	Rs 50-99	Rs 3287-6573
III	Rs 30-49	Rs 1972-3286
IV	Rs 15-29	Rs 986-1971
V	Below Rs 15	Below Rs.985

The advantage with Prasad's classification is that it takes into consideration only the income as a variable and it is simple to calculate. This can be applied to assess the socioeconomic status in both rural and urban areas.

3. Chief Complaints, medical history, treatment history and surgical history were recorded. A detailed present and past medical history was taken which elaborated and helped towards the diagnosis. All the patients were asked and examined for any surgical history in the past.

4. Examination of eyes and adnexa with:

1. Torch light
2. Slit lamp

Thorough detailed examination of eyes and adnexa was performed using diffuse torch light and slit lamp.

5. Regurgitation test and sac syringing

1. Regurgitation Test: In chronic Dacryocystitis the contents of the sac shall regurgitate through the lower or lower and upper punctum both. In chronic Dacryocystitis with functional block, i.e. pump failure the contents of the sac shall empty in the nose. In chronic Dacryocystitis with encysted mucocele, there is no regurgitation of the contents.

2. Sac Syringing: This method of exploration by sac syringing in the diagnosis of chronic Dacryocystitis prior to cataract surgery.

These details were collected prospectively and analyzed retrospectively using SPSS software and conclusion was derived based on observations.

RESULTS

A total of 226 cases were studied, of which 96 (42.48%) were males and 130 (57.52%) were females. Our study shows highest incidence of chronic dacryocystitis among people in the 50-59 yrs of age group(45.15%). The Right side was affected in 100 cases(44.25%) & left side was affected in 80 (35.40%) while 46cases (20.35%) had a bilateral disease.Maximum number of patients (120) of our study belong to Class IV & Second largest group of patients (50 cases) belong to class III

TABLE 2: Showing Age-distribution Of Cases

AGE GROUPS	NO.OF PATIENTS	%
19--29	14	6.19
30-39	20	8.84
40-49	30	13.27
50-59	102	45.13

60-69	40	17.69
70-79	20	8.84
TOTAL	226	100

TABLE 3: Showing Gender Wise Distribution Of Cases

SEX	NUMBER OF CASES	%
FEMALE	130	57.52
MALE	96	42.48
TOTAL	226	100

TABLE 4: Showing Laterality Of Cases

DACRYOCYSTITIS	NO. OF PATIENTS	PERCENTAGE(%)
RIGHT SIDE	100	44.25
LEFT SIDE	80	35.40
BOTH SIDES	46	20.35
TOTAL	226	100

TABLE 5: Showing Socio-economic Status & Per Capita Income According To Revised B.g. Prasad's Classification

PER CAPITA INCOME	SOCIO-ECONOMIC STATUS	NUMBER OF CASES
6574 & ABOVE	I	12
3287-6573	II	24
1972-3286	III	50
986-1971	IV	120
BELOW 985	V	20

DISCUSSION

Chronic Dacryocystitis though a common problem of lacrimal drainage system, treated much efficiently in recent years with advances in investigative operational technique pertaining to solve the problems associated with it(4). Epiphora is the most annoying symptom in about 87% cases, followed by discharge, swelling, pain and conjunctivitis.

In present study of 226 cases, various modes of presentation of chronic Dacryocystitis cases presented at our institute. Patients of chronic Dacryocystitis with respect to their age, sex, occupation and socioeconomic status were studied. The following observations were noted during the course of study with relevant results. These are discussed in comparison with the studies published previously.

In our Study maximum patients(102) belong to 50-59 years of age (45.14%). Jacobs BH(4) in his study found the maximum incidence of this condition between 40-55 years of age. Sarda et al(5) noted maximum incidence of chronic Dacryocystitis in the third and fourth decade of life. R. Dalgleish(7) stated that 35-40 years was the earliest expected age of onset of acquired idiopathic nasolacrimal duct obstruction. Saxena R.C.(8) and Garg KC(8) quoted a maximum age incidence in the fourth decade. Duke Elder S(9) states that the disease preferentially affects adults over middle age being relatively rare in children and adolescents. The highest incidence quoted by him was in the fourth decade of life.In our study maximum incidence of disease was found in Females that is in 130(57.52%) patients while 96(42.48%) were males. In a study carried out by Pawar and Patil.(10) the incidence of Chronic dacryocystitis was seen in 56% of females. This high incidence in female has been attributed to narrow lumen of bony lacrimal canal.

In our study the disease was found lateralized to Right side in 100 (44.25%) of cases while it was Left in 80(35.40%) of cases and bilateral in 46(20.35%) of cases. Jacobs BH(4) in a study found maximum incidence in age group of 40-55 years. While Saxena RC and Garg KC(8) quoted a maximum age incidence in the 4th decade. It is imperative to understand the socioeconomic status (SES) of the community in order to correlate its impact on health quality of living standard. Socioeconomic stratification is the key parameter for proper understanding of the affordability of the community of health services, amenities and their purchasing capacity. When it is taken as a summation of education, occupation and income, it reflects the value system expected for that level(11).

The important determinant of the standard of living is socioeconomic status of the individual/ community. SES influences on the incidence and prevalence of various health related conditions. Socioeconomic status also influences social security in terms of the accessibility, affordability, acceptability and actual utilization of various health facilities. The advantage with B.G. Prasad's classification is that it takes into consideration only the income as a variable and it is simple to calculate. This can be applied to assess the socioeconomic status in both rural and urban areas(12).

We haven't find any study regarding relationship of socioeconomic status with Dacryocystitis by extensive review of literature. In our series, we followed Revised B.G. Prasad classification,2018 for categorizing socioeconomic status of the patients, according to which 120(53.09%) patients belongs to class IV, 50 (22.12%) to the class III, 24 (10.62%) to class II and 12 (5.3%) patient belongs to class I. As per our study, Dacryocystitis was more common in class IV & III of socioeconomic status. This might be due to poor hygiene and low living standard of particular socioeconomic class.

CONCLUSION

Dacryocystitis is common eye disease in ophthalmology practice. It is an important cause of ocular morbidity in India. The main cause for chronic Dacryocystitis is obstruction which leads to stasis and altered environment within the lacrimal sac. With the extensive search in literature, we haven't found any study of correlation between dacryocystitis with SES. Therefore this subject needs an extensive study and awareness to solve the enigma of chronic Dacryocystitis in the people of low socioeconomic group with poor hygiene and low standard of living.

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