



SPECTRUM OF OCULOPLASTIC DISEASES AMONG ARMED FORCES POPULATION AT A TERTIARY CARE CENTRE IN INDIA

Ophthalmology

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ABSTRACT

Introduction: There are very few studies which reported about prevalence of oculoplastic disease world wise as they do not pose any threat to vision. The actual incidence of oculoplastic disease in general population is not known due to paucity of data globally.

Aim: The study was done to find out prevalence of different oculoplastic diseases among representative of Armed forces population at tertiary care centre located in India.

Methods: A prospective observational study was conducted over an one year. Information regarding patient who sought ophthalmic care at this centre was retrieved from patient's medical record and data was analyzed.

Results: Total 1,115 patients with oculoplastic disease were seen during the study period. Eyelid disorders accounted for 530, lacrimal disorders 370 and orbital disorders 215 of all cases seen during the period. The most common oculoplastic condition noticed was nasolacrimal duct obstruction as most of the patients who sought ophthalmic care at peripheral centre was found to have cataract and subsequently transferred to our centre for further management.

Conclusion: Different spectrum of oculoplastic diseases were seen during the study period and all patients were managed at our centre. Eyelid diseases were the common oculoplastic disease encountered followed by lacrimal and orbital disorders. The morbidity was caused maximally by orbital disorders as most of the patients with this problem reported late in our study group. External DCR and levator reattachment for Ptosis were the most common surgical procedure performed. All orbital disorders which needed active intervention were also treated at this tertiary care centre.

KEYWORDS

Eyelid Diseases, Lacrimal Diseases, Orbital Diseases, Prevalence, Surgical Procedures

INTRODUCTION

Oculoplastic diseases comprise of lacrimal, lid, orbital disorders and its actual prevalence in general population is not known due to paucity of data globally. 1. Lack of awareness of these diseases among eye care professionals and patients lead to diagnosis of these diseases in late stages which causes visual dysfunction, anatomical disfigurement and cosmetically unacceptable appearance. 2. The oculoplastic diseases had a low priority in the prevention of blindness programme as well as because these diseases do not pose direct threat to vision. 3. These diseases often remain undetected which sometime leads to catastrophic or fatal outcomes in some cases. This scenario is worse in rural and tribal population where armed forces personnel are deployed or their families reside compared to urban population due to inadequate eye care infrastructure. The main focus of community outreach programme in rural areas is also on detection of cataract and other common causes of blindness which lead to overlooking of oculoplastic diseases. 3,4,5 A majority of studies have focused on individual oculoplastic disease entity and its prevalence in the population. 6,7 There are no published reports about occurrence of oculoplastic diseases in our environment. To our knowledge, this is one of the first kind of study conducted to look at different spectrum of oculoplastic diseases among armed forces personnel and their dependents who were being referred from peripheral hospital to our tertiary care centre located in northern and western part of India.

The purpose of this study to generate data, to find out the actual prevalence of different oculoplastic diseases and its treatment outcomes among representative of armed forces personnel population reported for consultation at tertiary care centre.

Method

A prospective observational study was carried out at a tertiary care centre of Army which is located in northern part of India for the period of one year from 01 March 2019 to Feb 2020. At this centre oculoplasty outpatient services were provided to patients thrice in a week. This study was approved by the institutional review board and adhered to the tenets of the declaration of Helsinki. All patients were seen by oculoplastic and paediatric ophthalmologist. All patients referred from peripheral hospital of Armed Forces from all over India to our centre for oculoplastic consultation were included in this study. Data was collected by the author from the patients who attended outpatient services during this period at entry and during follow-up after obtaining the relevant clearance from the institution and informed consent from all patients which were included in the study. Information was retrieved by the author on the age of patients at presentation, gender, duration of symptoms before the

presentation, residence, diagnosis and treatment offered to them. All patients who reported for oculoplastic condition underwent detailed ocular examination which included vision, intraocular pressure recording, slit lamp examination, fundus examination with 90 and 20 D lens, lacrimal irrigation test. Clinical photographs were taken of each patient after taking their consent in each visit. Investigative modality like CT scan and MRI was advised in all orbital cases. All patients who needed surgical intervention were treated at this centre under local or general anaesthesia.

Statistical Analysis:

The data collected was entered in Microsoft Excel software 2007 and analyzed using Epi Info version 3.4.3. Descriptive statistics like percentages and ratio was calculated where applicable.

RESULT

A total of 1115 patients were seen during the study period from March 2019 to Feb 2020. The total no of oculoplastic patients which were seen during study period on monthly basis is given in Table 1. There were 464 males (41.7%) males and 650 females (58.2) at a ratio of 1.3:1 in the study population. The age distribution has shown that patients less than 40 years constituted 535 (47.98%), followed by aged 20-40 years constituted 430 (38.5%), patients aged between 10-20 years constituted 100 (8.9%) whereas children only constituted 50 (4.4%) of the study population. This age distribution of patients in our study has been depicted in Table 2. The average duration of symptoms in our study population was between 03 to 06 months at the time of oculoplastic consultation in our centre which has been depicted in Table 3. The prevalence of various oculoplastic diseases has been depicted in Figure 1a,b,c. Eyelid disorders constituted 530, lacrimal disorders 370 and orbital disorders 215 of all cases seen during the study period. Number of oculoplastic surgeries performed on monthly basis during study period is given in Table 4. A total of 125 eyelid, 140 lacrimal, 105 orbital surgeries were performed during the study period. Surgery was performed thrice in a week throughout the study period either under local or general anaesthesia. Other oculoplastic condition responded to medical therapy and patients were advised follow up at their nearest eye centre.

Tables

[Table 1], [Table 2], [Table 3], [Table 4]

Table 1: Total Number Of Patients Seen During The Study Period On Monthly Basis

Month	No of patients	Percentage
March	55	4.9
April	65	5.8

May	85	7.6
June	65	5.8
July	60	5.3
Aug	70	6.27
Sep	80	7.17
Oct	95	8.5
Nov	120	10.76
Dec	90	8.07
Jan	150	13.45
Feb	180	16.14
Total	1,115	

Table2:Distribution Of Patients In Age Groups(n=1115)

Age group(years)	Male	Female	Totalno	Percentage
Below10	20	30	50	4.4
10-20	35	65	100	8.9
20-40	200	230	430	38.5
>40	210	325	535	47.98
Total	465	650	1,115	

Table3: Duration Of Symptoms At The Time Of Presentation

Duration of symptoms	Male	Female	TotalNo	Percentage
Less than 03months	30	14	44	3.9
03-06 months	302	356	658	59
06 months - 01 year	102	156	258	23
More than one year	95	60	155	13.9

Table4: No Of Oculoplastic Diseases Performed On Monthly Basis

Month	Number of surgeries	Percentages
March	15	4
April	10	2.7
May	20	5.4
June	15	4
July	15	4
Aug	30	8
Sep	42	11.3
Oct	46	12.4
Nov	47	12.7
Dec	30	8.1
Jan	48	12.97
Feb	52	14.05

Figures

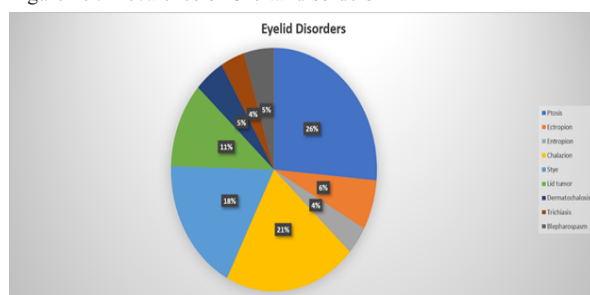
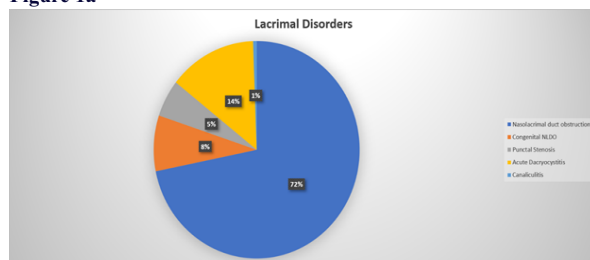
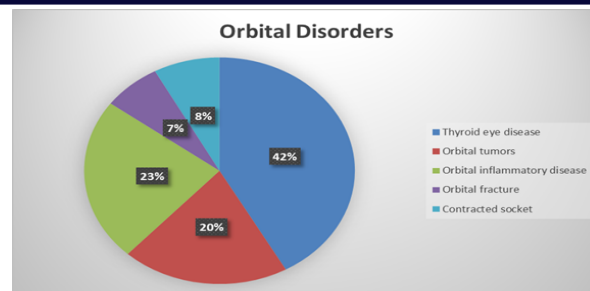
[Figure 1a], [Figure 1b], [Figure 1c]

Legends

Figure 1a: Prevalence of Eyelid disorders

Figure 1b: Prevalence of Lacrimal disorders

Figure 1c : Prevalence of Orbital disorders

**Figure 1a****Figure 1b****Figure 1c****DISCUSSION**

The tertiary care centre where study was conducted located in northern part of India which receives referral from peripheral hospital of Armed forces hospital for opinion of oculoplastic surgeon. Most of the peripheral hospitals of Armed Forces are located in the interior part of India and the population in these area are from rural background. The socioeconomic status of population is also poor residing in this area. Ophthalmic services are accessible to the population but they are mainly focused on screening of cataract and prevention of blinding diseases. The ophthalmic plastic services infrastructure is poor in this region in terms of trained manpower and equipments. Hence all patients from this area who need oculoplastic opinion used to get referred to our centre. A total of 1,115 patients were seen during the study group. Our study showed a slight female preponderance as we saw 650 females and 465 males at a ratio of 1.3:1. This trend is slightly different from Thevi et al and Achigbu et al which reported more male patients visited their centre for consultation. 8.9 Bolanle et al reported more females visited their hospital for consultation as they are more concerned about cosmetic disfigurement. 10

Our study showed that most of the patients who presented with oculoplastic disease were above 40 yrs. This is in conformity with Tan et al which reported various oculoplastic diseases are common in individual who were above 40 yrs. 11

Eyelid disorders constituted 530 of all diseases with ptosis is the most common clinical condition constituting 140 of all eyelid lesions. In most of the cases it was of involutional etiology. This is in contrast to Bolanle et al which found ectropion as a major eyelid disorder. 10 The reason for higher number of ptosis in our study population as most of the patients who sought consultation at this centre during study period were above 40 yrs. This is in conformity with Tan et al and Sreedharan et al which reported ptosis as the common oculoplastic condition in their study. 11,12 The second common eyelid disorder which we found in our study was chalazion which accounted 110 of all lesions. This was followed by stye which contributed 95 of all lesions. The reason for high prevalence of these lesions in our study group was poor lid hygiene which was not treated on time. Lid malpositions disorders (both entropion and ectropion) accounted only 55 of all eyelid disorders.

Lacrimal disorders constituted 370 of all cases. Nasolacrimal duct obstruction was the most common lacrimal system diseases. Primary nasolacrimal duct obstructions constituted 260 of all cases. The reason is that many of these patients were diagnosed to have cataract when they initially reported at peripheral centre and during pre operative evaluation for cataract surgery they were found to have nasolacrimal duct obstruction. All these patients then reported at our centre for treatment of nasolacrimal duct obstruction. This is in accordance with Suppapong et al which found acquired nasolacrimal duct obstructions in 45% of all patients. 13 Congenital nasolacrimal duct obstruction was found in 30 patients whereas acute dacryocystitis, punctal stenosis and canaliculitis were found in 50, 20 and 20 patients respectively.

We saw total 215 orbital disorders among our patients in the study group which was less compared to lacrimal and lid disorders. The common orbital disorder which we noted in our study group was thyroid eye disease which constituted 90 (41.8%) of all patients and the second most common orbital disease was orbital inflammatory disease which included preseptal and orbital cellulitis and they comprised 50 (23.25%) of all orbital lesions. This finding

corroborates Arvind study which reported higher incidence of orbital inflammatory(34.1%) and thyroid eye disease(30.6%) respectively.¹⁴The higher incidence of inflammatory orbital disease in this study can be explained by greater number of granulomatous and infectious disease which were included in the subclassification of other inflammatory disease. Orbital tumors which constituted 42(19.53%)of all orbital diseases and the tumor we encountered in our study were dermoid cyst,cavernous hemangioma, capillary hemangioma, lacrimal gland tumors .There were 15(6.97%) orbital fracture cases and 17(7.9%) contracted socket cases in our study group.

Though oculoplastic surgeon was posted for the first time and sources were limited being new unit at this centre, we performed total 370 surgeries during the study period and maximum were done during the last 09 months of study when oculoplastic surgeon was available all the time in the campus.The most commonly performed surgery was external dacryocystorhinostomy followed by ptosis correction.The higher number of lacrimal surgery(37.8%) in our study stands in contrast with Tan et al which showed in 77.4% of cases eyelid surgery was performed and the Madagascar study which reported 49% of all patients underwent enucleation and evisceration.^{11,15}

The limitation of the study would be as study was done at a single centre,hence the study group may not be representative of the entire Armed Forces population living in that area.The data from larger population is needed to know the actual prevalence of various oculoplastic diseases .

CONCLUSION

Eyelid disorders, mainly ptosis of the eyelids were the most commonly encountered condition.Nasolacrimal duct obstruction was among the most commonly encountered lacrimal disorder among Armed Forces Personnel. Orbital disorders were less compared to eyelid and lacrimal disorders but caused maximum morbidity in our study population.External DCR and ptosis correction were the most commonly performed procedure at this centre.The author hopes that current study will help in formulating guidelines to hospital authority for improvement of oculoplasty unit in respect of manpower and equipment as it has provided data on the spectrum of different oculoplastic diseases which prevails among Armed Forces Personnel.

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Conflicts Of Interest

There are no conflicts of interest.

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