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Original Research Article

The Profile of Infectious Keratitis

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Abstract: Corneal blindness account for 20 to 30 % of all blindness in the developing countries of the world. Corneal blindness is a major public health problem in India and infections constitute the most predominant cause. Various etiological factors have been observed in corneal blindness and factors associated with it. To study incidence of infectious keratitis and factors associated with it. All the patients of suspected of infectious keratitis were enrolled in the study. The detail of these patients such as age, sex and other demographic detail were entered in a prestructured Performa. In results the incidence of infectious keratitis amongst the ocular injuries was 63%.majority 37%of patients between 41 to 60 yrs of age .Males were affected more than females. Agricultural injuries & occupational accidents were most common cause if infectious keratitis. In conclusion the Trauma was found to be the most important predisposing factor for both bacterial and fungal keratitis and was found 63 patients in bacterial ulcer (58.97%) cases were because of trauma in fungal corneal ulcer (83.87%) were attributed to trauma.
Keywords: Infectious Keratitis, Fungal Keratitis, Trauma, Prognostic factors.

INTRODUCTION:

Corneal blindness is major public health problem in India and infections constitute most prominent cause. Corneal scarring is second only to cataract as major etiology of blindness and visual disability in developing nations. Globally it is estimated that ocular trauma and corneal ulceration result in 1.5 to 2 million new cases of corneal blindness annually. 90% of them occurring in developing countries and it have been recognized as a silent epidemic .Recent national survey by Govt. of India (1991-2001) estimated cornel lesions are responsible for 9% of blindness in our country [1]. Microbial keratitis is common potentially sight threatening ocular infection that may be caused bacteria, fungi, viruses and parasite .Bacterial corneal ulcer it ocular emergency due to the often rapid progression of this corneal infection with the threat of visual loss potential corneal perforation [2]. Aggressive initial treatments for clinical cases of infectious keratitis can minimized incidence of post infectious cornel scar one of the key element in this effort is proper understanding of microbiological and clinical characteristics of this disease entity which will enable ophthalmologist appropriate antimicrobial therapy [3]. Fungal infection of cornea are relatively infrequent in develop world out constitute larger proportion keratitis cases many parts of developing world .although this infection can cause devastating damage if allowed to progress unchecked. Advances in antimicrobial therapy and surgical techniques have improved their prognosis. Parasitic infections of cornea are significant cause of ocular morbidity acanthamoeba keratitis is increasing recognized in the developed world as potentially serious complication of contact lenses wear and one that needs aggressive treatment [4]. The commonest causes of cornel blindness are infection made worse by malnutrition due to poverty and ignorance. Ulcerative keratitis must be considered as urgent problem. Early recognition with prompt diagnosis and rapid institution of appropriate therapy will significantly improve visual prognosis. This study is undertaken to evaluate current status of the etiology, clinical characteristics, pathogenesis, microbiological work up and management of suppurative keratitis.

Aims and objective:

To study clinical and microbiological profile of infectious keratitis and factors associated with it s prognosis.

MATERIAL AND METHODS:

The study carried out in Marathwada region of Maharashtra over 100 patients showing clinical signs and symptoms of infectious keratitis with specific significance given to predisposing and prognostic factors, microbiological investigation and management follow up. Detail history taking followed by thorough clinical exam with Slit Lamp, Fluoreseine Staning,Corneal scrapings for Gram's , KOH & Culture/sensitivity were done. Standard antimicrobial therapy was given based on Lab reports.
Study Period: 2 yrs. 2011-2013

Inclusion criteria:

All the patient s with diagnosis of infectious keratitis attending ophthalmology dept during study period.

Exclusion criteria:

Patients showing signs and symptoms of endophthalmitis and panophthalmitis. Patients not following regularly. Using above mentioned inclusion and exclusion criteria 100 cases of infectious keratitis were diagnosed .The details of these patients age, sex, and demographic data were entered in Proforma.

RESULTS

Majority of patients of infectious keratitis were in between 41 to 50 and 51-60 age group followed by 31-40. Incidence in male was higher than (64%) as compared to female. Both eye were almost equally affected with left eye slightly more commonly involved (54%) as compared to right eye (46%). Demographically majority corneal ulcer were seen in rural population (61%) as compared to urban population (39%) .

Table no 2 shows that occupation related to farming were showing majority cases 39% as naturally this population more exposed to trauma. Followed by house hold work population affected 34%. Table no 3 shows majority cases were bacterial keratitis 39% followed by fungal keratitis 31% and 30% cases showing no growth. Table no 4 shows various complication corneal ulcer it was found that perforation of cornea was most common cause 10% followed by secondary glaucoma 8%, Irdiocyclitis 6% and adherent leucoma 4%.

Table-1 Distribution of factors associated with infectious keratitis.

	Variable	No	Percentage
Age	Below 10	5	5%
	11-20	4	4%
	21-30	13	13%
	31-40	17	17%
	41-50	21	21%
	51-60	26	26%
	61-70	6	6%
	Above 70	8	8%
Sex	Male	64	64%
	Female	36	36%
Affected eye	Right	46	46%
	Left	54	54%
Demographic	Rural	61	61%
	Urban	39	39%

Table – 2: Distribution of patient according to occupation:

Occupation	No	Percentage
House hold work	34	34%
Occupation related to farming	39	39%
Laborer	18	18%
Other	9	9%

Table – 3: Type of isolates in corneal ulcer studied

Growth of micro organism	No	Percentage
Bacterial	39	39%
Fungal	31	31%
No growth	30	30%

Table-4: Distribution of cases of infectious keratitis with ocular complication

Ocular complication	No	Percentage
Secondary glaucoma	8	8%
Iris prolapse	5	5%
Iridiocyclitis	6	6%
Adherent leucoma	4	4%
Perforation	10	10%

DISCUSSION:

The present study was conducted with objective to study the incidence of infectious keratitis and various factor associated with it .Total 100 patient studied in present study it was found that 60% of cases were below age of 50 years remaining 40% cases were above the age 50 years. Studied carried out at vadodara Gujrat also showed peak affected age group between 30 to 60 years. Umasharidhar *et al.;* in north India on fungal corneal ulcer showed mean age group to be 54 years which is similar our study [5]. In present study observed that incidence in male 64% higher than female 36%. Various author such as M shrinivasan *et al*[1] at Madurai showed that the predominance of corneal ulcer in male was most pronounced in middle year with overall ratio of male to female patient ratio 6 to 1. One of the reasons may be that males are more involved in outdoor activities and are more susceptible to trauma. In our study out of 100 cases it was found that 61% cases were rural area and 39% cases were in urban area. Various other studies like M shrinivasan et al showed majority patient from rural area (38%). In our study farmer and occupation related to agriculture constituted 28% cases followed by household worker. M shrinivasan *et al.*[1]*;* showed that majority of corneal ulcer were seen in peoples whoever related with agricultural field work .corneal trauma was the most common predisposing factor for the development of corneal ulcer representing 49% cases . Bharthi M J *et al.*[2]*;* and other author also found the ocular trauma as main predisposing factor for microbial keratitis. In our study most common associated ocular damage was that of cornea in the form corneal perforation 10% by secondary glaucoma 8%, Iridocyclitis 6% and adherent leucoma 4%.complications were mostly associated with initial treatment with corticosteroid, self medication, poor patient compliance and predisposing ocular pathology like dry eyes, lid abnormalities.

CONCLUSION:

Thus above discussion we could conclude that farmer and agricultural worker most commonly affected with predominate in males were affected.

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