Research Paper

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Study of Prevalence of Mycotic Keratitis

Medical Science

KEYWORDS : Mycotic Keratitis, Early diagnosis , ANTIFUNGAL Agents.

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ABSTRACT

Aims are 1. To study the occurrence of fungal corneal ulcer in different age groups, the distribution of fungal corneal ulcer in respect to sex, Distribution in relation to occupation, common causative agents, oetiopathogenesis, to study the effectiveness of Natamycin and Fluconazole , in the management of mycotic keratitis. The study involved 190 cases o f corneal ulcers admitted in Regional Eye Hospital, Kurnool. Out of 190 cases, 45 cases showed positive fungal cultures on microbiological investigations .Incidence was found tJo be high In the age group o f 31- 60 years , incidence was high among males .Aspergillus was the most common fungi identified , followed by Candida .Most of the persons affected were agricultural labourers.

CONCLUSION : Even though these cases responded favourably to treatment , the end result obtained after follow up in our series of cases was, large percentage of cases ended with corneal leucomas and evisceration and so visual prognosis was found to be poor. This clearly showed the need to improve the ophthalmic care and treatment at the peripheral level and in rural areas , for the early diagnosis and early management of cases and early referral to higher centers at the earliest so as to reduce vision threatening complications , thereby to improve visual prognosis in these cases and , the need for invention of more effective antifungal agents.

INTRODUCTION:

As the cornea is the outermost , being always exposed to the outer world , and always exposed to the danger of external injuries , and the injurious material may carry infective organisms internally. If the virulence of the organism is more or when the body resistance of the person is less , even a minor injury may produce a corneal ulcer. The incidence of this disease is increasing due to rapid industrialization ,agricultural activities and indiscriminate use of antibiotics and steroids. Further more illiteracy and ignorance on the part of the rural people , they are still using herbal juices and other indigenous medicines, so the incidence is still increasing. As the majority of people of this part of the state are agricultural labourers and illiterate , they very often get injuries by paddy leaves , buffalo tails, cow dung and other agricultural materials , thereby increasing the incidence of mycotic keratitis in this group. The situation further worsens by the use of herbal juices and indiscriminate use of steroids and

antibiotics by the village quacks. Prognosis worsens as no specific therapy given excellent results and also due to delayed presentation on the part of the patients. MATIRIALS AND METHODS: 190 Cases who were presented with symptoms and signs suggestive of corneal ulcer ,at the outpatient department , Regional eye hospital , were investigated by the following methods :Visual Acuity Assessment , Slit lamp examination after fluorascein staining, Corneal scrapings collected from the ulcer sent for Grams staining, KOH wetmount preparation, and for culture and sensitivity examination. Cases were managed with Topical fortified Cephazoline and fortified Gentamycin Eye Drops, Natamycin 5% suspension and for cases showing culture positive for Candida species Fluconazole 0.3% Eye drops were started.

OBSERVATIONS AND DISCUSSION :

A total number of 190 cases of corneal ulcer attended at outpatient department ,Regional E YE HOSPITAL , Kurnool for a period of three years , were studied. Out of 190 cases Mycotic keratitis was encountered in 45 cases as shown in Table -1 , it may be due to indiscriminate use of topical steroids and higher antibiotics following agricultural injury to the eye , nowadays. The age incidence of Mycotic keratitis in the present study as per the Table -2 showed that the highest incidence occurred in the age group of 31-60 years .The incidence of corneal ulcers with positive cultures for fungi was found to be 23.6%.The highest incidence of 53.56% was found to be with Aspergillus species , followed by candida albicans (13,3%). 6.6% 0f cases 0f present study were due to infection by Fusarium infection.11.1% 0f cases were due to Pencillium infection and 4.4% of cases were due to Curvularia infection. The incidence was higher in males (59.9%) than females (39.9 %). The higher incidence in males is due to greater exposure to outdoor activities and prompt attendance of males in hospital, as they are the bread earners. The present study showed that Natamycin 5% eye drops were effective against Aspergillus species ,Pencillium ,and Fusarium species and Fluconazole was found to be effective against the Candida species. All the Fungal corneal ulcer cases i.e., without hypopyon exhibited good response to Natamycin eye drops. 0f the 45 cases which had good response, 20 cases healed with CORNEAL OPASCITIES, MOSTLY LEUCOMA AND 4 CASESDEVOLOPED NEBULAR OPASCITIES, 16 cases healed with adherent leucoma, and 5 cases ended with perforation with pthisis.4 cases 0f ulcers ended with evisceration..

SUMMARY AND CONCLUSION;

This study comprises of a total number of 190 cases of corneal ulcers screened out of 26,766 patients attended at the Regional Eye Hospital, Kurnool, during the period of three years. Out of 190 cases admitted to the in patient department of Regional Eye Hospital, 45 cases showed positive fungal culture in Saborauds media. The incidence was found to be high in the age group of 31-60 years. This is explained by the fact that people in this group are commonly exposed to trauma due to outdoor activities. Mycotic keratitis was found to be more common in males i.e.,59.9% of cases than females i.e.,39.9%, because of the greater exposure to outdoor activities and prompt attendance in hospital by males. In case of females they work in the fields during harvesting period and are equally susceptible for agricultural injuries thus giving rise to a sizeable number of cases. Out of 45 cases of Mycotic keratitis, As per gillus group were isolated in 51.1% of cases and Candida albicans in 13.3%, Pencillium species 11.1% Rhizopus 4.4% ,cephalosporium 6.6%, Fusarium species 6.6% and Curvularia species 4.4% of cases respectively. IN THE PRESENT STUDY Mycotic keratitis due to candida albicans, responded well to the topical use of Fluconazole 0.3% eye drops. Mycotic keratitis caused by Aspergillus species, Pencillium species, Fusarium, Rhizopus and Curvularia are responded favourably to Natamycin 5% eyedrops. The end result obtained in our series of cases are thought provoking. A large percentage of cases ended with corneal leucomas shown in Fig I and Fig II and evisceration a nd hence visual prognosis

was found to be poor. In our study we felt that it is necessary to conduct more research to discover more effective broadspectrum antifungal agents for ophthalmic use. And it is necessary to improve ophthalmic care and treatment at the peripheral level and in the rural areas , not only to lower the incidence of Mycotic keratitis ,but also for early management of cases and referral to higher centers thereby minimizing the vision threatening complications and improving the visual outcome in these cases.

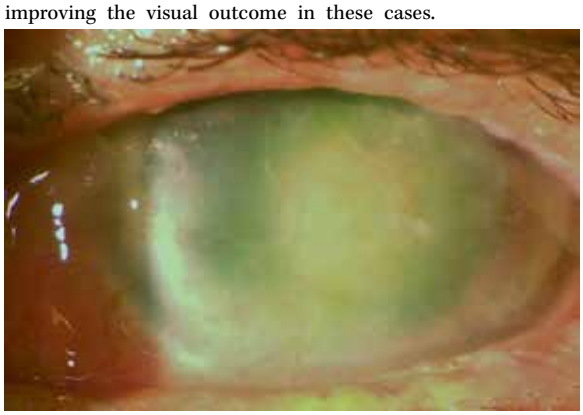

Fig-I

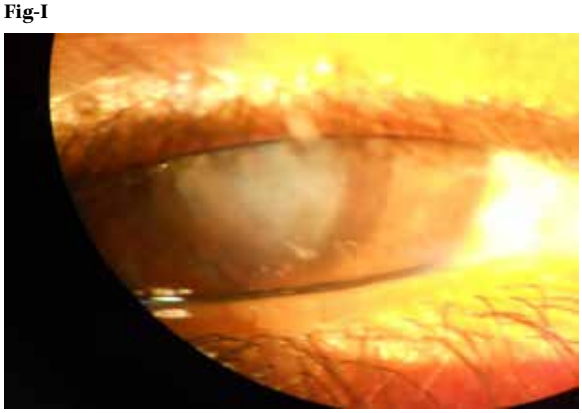

Fig-II

TABLE – I

INCIDENCE OF CORNEAL ULCERS AND MYCOTIC KERATITIS

	TOTAL NUMBER OF CASES	PERCENTAGE (%)
OPD PATIENTS	26766	100%
Corneal Ulcers	190	0.79%
Keratomycosis	45	0.168%

TABLE- II

AGE INCIDENCE OF Mycotic keratitis

AGE GROUPING YEARS	NO. OF CASES OF MYCOTIC KERATITIS	PERCENTAGE (%)
00-10	0	0
11-20	1	2.22%
21-30	2	4.44%
31-40	6	13.3%
41-50	12	26.6%
51-60	21	46.65%
>60	3	6.6%
TOTAL	45	

TABLE - III

Sl.No.	Description	No. of Ulcers	Percentage(%)
1	Fungal Positive	45	23.6%
2	Bacterial Positive	96	50.5%
3	Cultures Negative	49	25.7%
	Total	190	

TABLE - IV

End Result	No. of cases	Percentage (%)
Healing with corneal opacities	20	44.41%
Healing with adherent Leucorna, secondary glaucoma/ Complicated cataract	16	35.55%
Perforation with phthisis	5	11.1%
Ulcers necessitating evisceration	4	8.8%

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