

MICROBIOLOGICAL STUDY OF CORNEAL ULCERS AT KIMS, AMALAPURAMN. Padmaja¹, P. Nageswara Rao²**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: Corneal ulcers are the common cause of corneal blindness. Of the corneal ulcers, majority of the cases are because of the fungal etiology. The present study is aimed to identify the pathogenic organisms responsible for corneal infections. Majority of the cases are secondary to trauma. Of the fungal cases, Aspergillus is found to be the predominant fungus affecting corneal ulcers, followed by bacteria affecting the corneal ulcers.

KEYWORDS: Corneal ulcers, fungal etiology, aspergillus, corneal blindness, trauma.

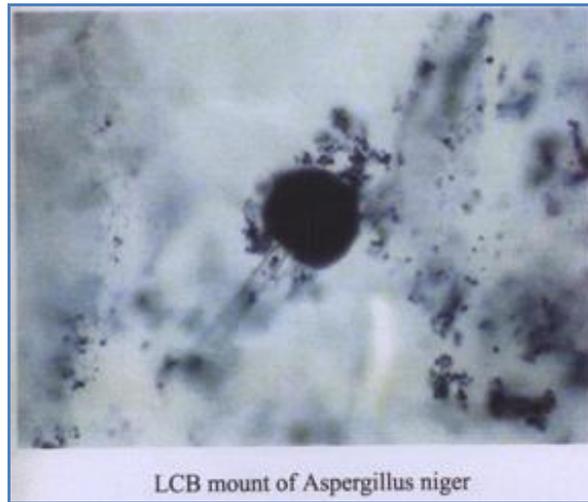
AIM: To study the microbial aspect of corneal ulcers.

MATERIALS & METHODS: This study was conducted in the Dept. of MICROBIOLOGY, KIMS, Amalapuram between October 2012–April 2013. 50 patients with corneal ulcers, who attend Ophthalmology Dept. at KIMS, Amalapuram are included in the study. After clinical evaluation, corneal scrapings were collected and subjected to microscopy Gram's smear & KOH mount and cultures on SDA, Mac Conkey and BA as per standard protocols in all patients.¹

RESULTS: Out of 50 patients, 30 (60%) were males and 20 (40%) were females. Maximum number of cases 28(56%) were seen in the age of group of 30 – 50 yrs. Majority of the patients were from rural areas 45(90%) and most of them were farmers 30(60%). Most of the cases were reported during harvest season i. e around November to January. Most cases have a history of trauma 38 cases (76%), exposure Keratitis 7(14%) and Corneal xerosis 5(10%). On Grams staining, 3 cases (6%) showed positivity for the presence of gram positive bacteria & 2 cases (4%) for gram negative bacteria. Of the KOH mounts, 25 cases (50%) were positive for fungal elements.

Out of 50(100%) cases, 30(60%) were positive for culture. Out of which 25(50%) cases were culture positive for fungal elements and 5(10%) cases were culture positive for bacteria. 20(40%) cases were culture negative and 2(4%) cases showed mixed growth of the fungal isolates, Aspergillus – 20(40%) was the commonest isolate, followed by Fusarium - 3(6%) and Pencillium 2(4%). Of the bacterial isolates, Staphylococcus aureus was isolated in 3 cases (6%) followed by Pseudomonas aeruginosa 2(4%).²

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Sex	No. of cases	Percentage
Total	50	100 %
Males	30	60 %
Females	20	40 %

Table I: Sex wise distribution

SL. No.	Predisposing factor	No. of Cases
1	Trauma	38(76%)
2	Exposure Keratitis	7(14%)
3	Corneal xerosis	5(10%)

Table II: PREDISPOSING FACTORS (in 50 cases)

Cultures	No.	Percentage
Culture Positive	30	60 %
Pure fungal isolates	25	50 %
Pure bacterial isolates	5	10 %
No growth	20	40 %

Table III: Culture Analysis of 50 corneal scraping results from study group

SL. No.	Organism	No	Percentage
1	Staphylococcus aureus	3	6 %
2	Pseudomonas aeruginosa	2	4 %
	Total	5	10 %

Table IV: Different bacteria isolated from corneal scrapings

SL. No.	Fungal isolate	No	Percentage
1	Aspergillus spp	20	40 %
2	Fusarium	3	6 %
3	Pencillium	2	4 %
4	Total	25	50 %

Table V: Different fungal isolates

DISCUSSION: Blindness is the most morbid condition. Corneal blindness amounts for 20-30% of all blindness in the developing countries of the world, the leading cause of which is ulcerative Keratitis of fungal origin.³ The integrity and transparency of cornea are absolutely essential for the transmissions of light rays into the eye. Because of its external location, cornea is vulnerable to

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various insults and it can ultimately lead to loss of sight. Our region, Amalapuram, is agriculture rich and is the main occupation of the people in this part of the country. Fungal Keratitis is commonly seen in these agricultural workers. There is regional variation in isolation of microbes in corneal ulcer,³⁻⁵ in this study.

Staphylococcus aureus and *Aspergillus* spp are the most common microbes isolated. In some studies *fusarium* was found to be most common species.⁵

KOH wet mount is of great diagnostic value in the management of Fungal Keratitis and is recommended in all clinics for establishing timely treatment.

CONCLUSION: Ocular trauma and accidental spillage of vegetative material in to the eye major risk to the infection to cornea. Proper education and prompt treatment can prevent the blindness.^{6,7}

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