# Corneal Diseases: A retrospective study at a Tertiary eye hospital
# code – 1632571

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FINANCIAL DISCLOSURE

NO CONFLICT OF INTEREST

# INTRODUCTION

- Diseases affecting the cornea are a major cause of blindness worldwide, second only to cataract in overall importance. The epidemiology of corneal blindness is complicated and encompasses a wide variety of infectious and inflammatory eye diseases that cause corneal scarring, which ultimately leads to functional blindness.  Corneal ulcer, ocular trauma , Dystrophies and Degenerations are significant causes of corneal blindness

  Patient usually presents with sudden onset of pain,, redness, watering , and defective vision . Usually patients have history of trauma, fall of dust , or eye rubbing.

- Corneal ulcer is defined as disruption of epithelium with infiltration in surrounding and underlying stroma. In many of the developing countries in the world, corneal ulcer plays a major role in mono ocular blindness and visual disability. It affects all age groups , both men and women worldwide. Corneal ulcer is more commonly, a seriously infective condition which needs immediate and timely medical attention , to avoid visual disability in future.

- Corneal dystrophies are noninflammatory hereditary corneal disorders which are characterized by bilateral, nonvascularized corneal opacities.They mainly affect a particular layer of the cornea.
- Corneal Degenerative conditions occur in the cornea, many of which are of clinical importance. They are distinguished from dystrophies as being, nonhereditary and usually unilateral. These are conveniently divided into three categories: primary degenerations, secondary degenerations depending on long-standing changes in the eye itself, and infiltrations associated with metabolic disturbances.

**Aim :** To study the patterns of corneal diseases in out-patient's department of ophthalmology at tertiary care centre.

**Materials and Methods:** A retrospective study of the patients who presented to the ophthalmology department between 2019 July to 2021 July was done with the help of the data received from the hospital recording system.

176 Patients with only corneal disease were included.

Those with corneal disease along with other ocular disease were excluded from the study.

A detailed analysis was done for the same

## INCLUSION CRITERIA:

- All Infectious corneal ulcers (bacterial/ viral/ fungal/ protozoal )
- Corneal scarring due to ocular trauma
- Corneal degenerations and dystrophies

## EXCLUSION CRITERIA :

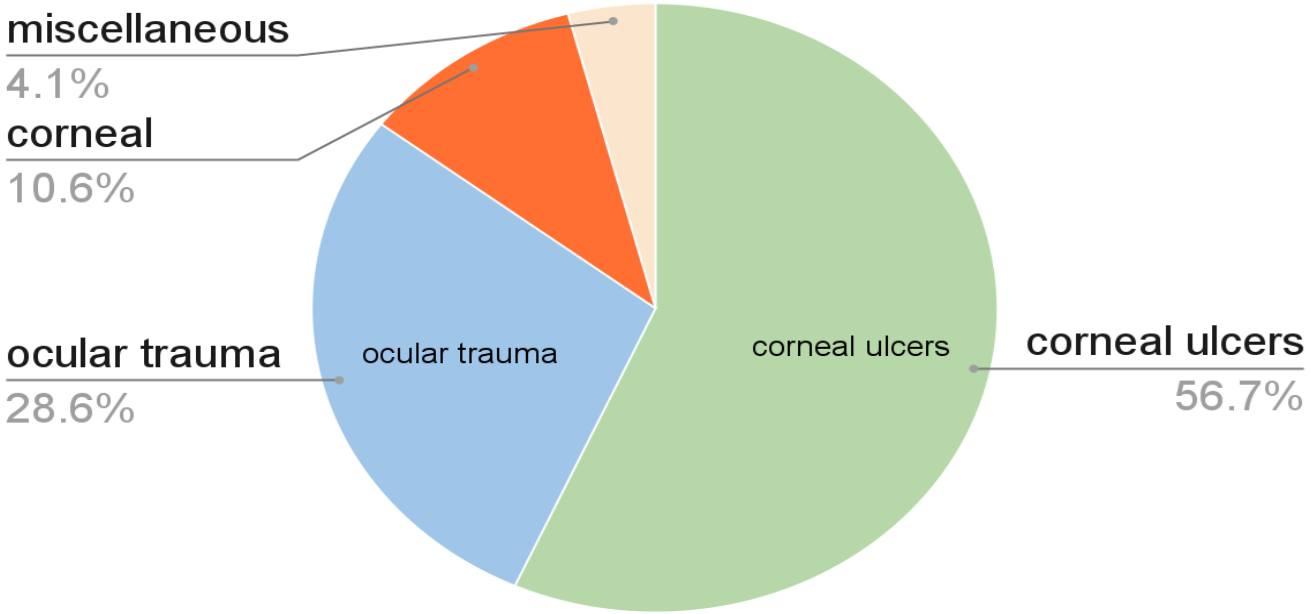
- corneal disease along with other ocular disease were excluded from the study.

# Results

1. The prevalence of corneal blindness was significantly higher with increasing age( 30-50 yrs)
2. The most frequent cause of corneal blindness included keratitis during adulthood (56.7%) , With male Preponderance( 65 % ) with mean age (30-50) females (35%) with mean age (20-50) ,mixed ulcers being the commonest infection( 78%) ,
3. Trauma (28.6%),
4. Corneal dystrophies and degenerations (10.6%)

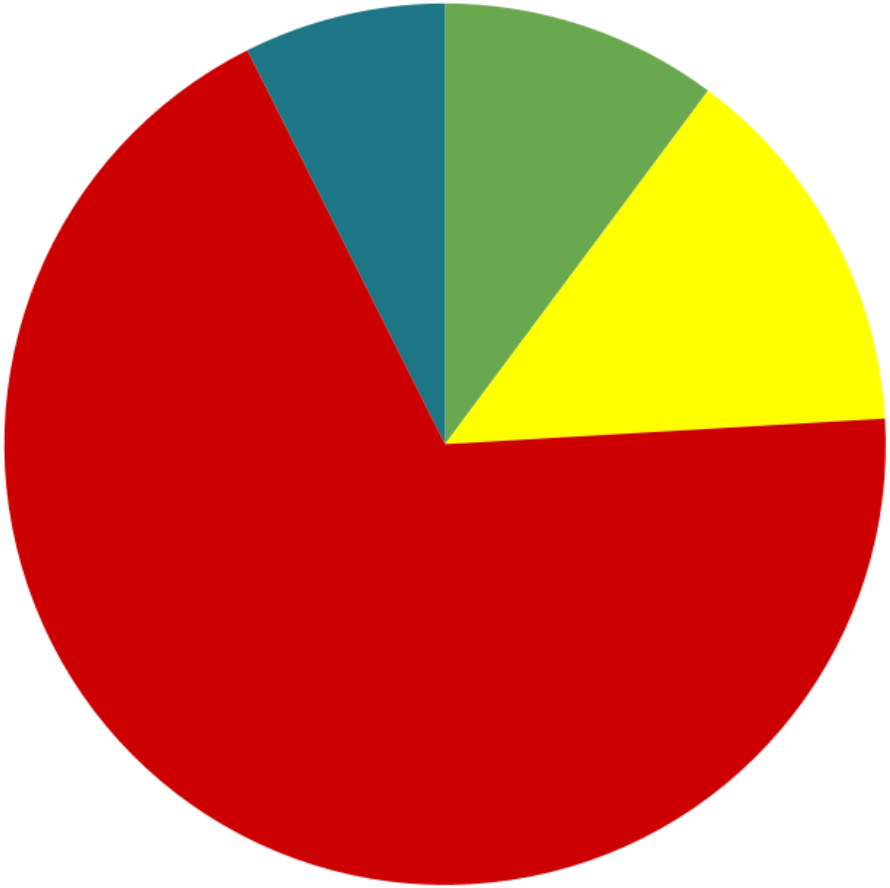
| **CORNEAL DISEASE ENTITY** | TOTAL CASES | TOTAL FEMALES | TOTAL MALES |
|---|---|---|---|
| CORNEAL ULCER | 108 | 38 | 70 |
| TRAUMA | 50 | 11 | 39 |
| DEGENERATIONS AND DYSTROPHIES | 18 | 8 | 10 |

## CORNEAL DISEASES



# DISTRIBUTION OF CORNEAL ULCER TYPES

| TYPES OF CORNEAL ULCER | NUMBER |
|---|---|
| Bacterial corneal ulcers | 11 |
| Fungal corneal ulcers | 15 |
| Mixed corneal ulcers | 74 |
| Others | 8 |



BACTERIAL CORNEAL ULCER

FUNGAL CORNEAL ULCER

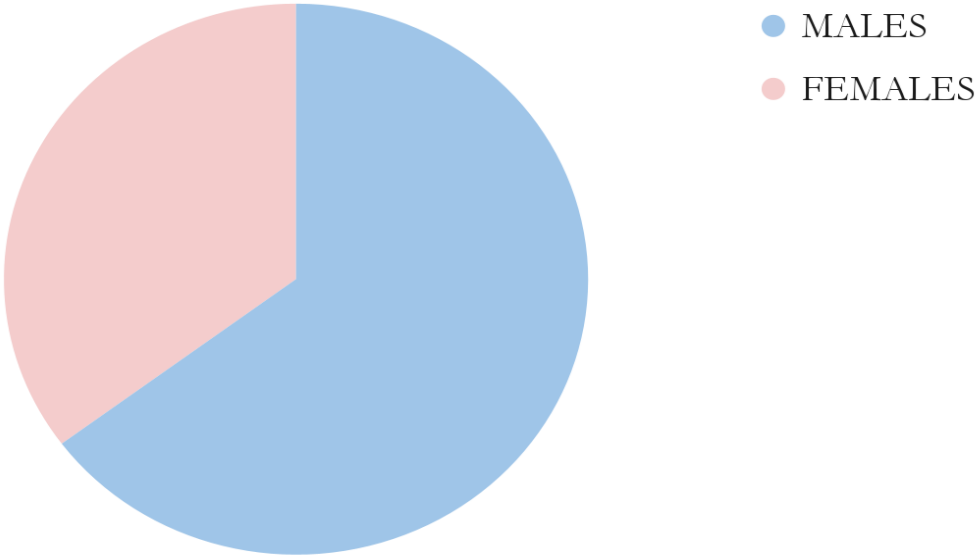
MIXED CORNEAL ULCER

OTHERS

## SEX DISTRIBUTION AMONG CORNEAL ULCERS :

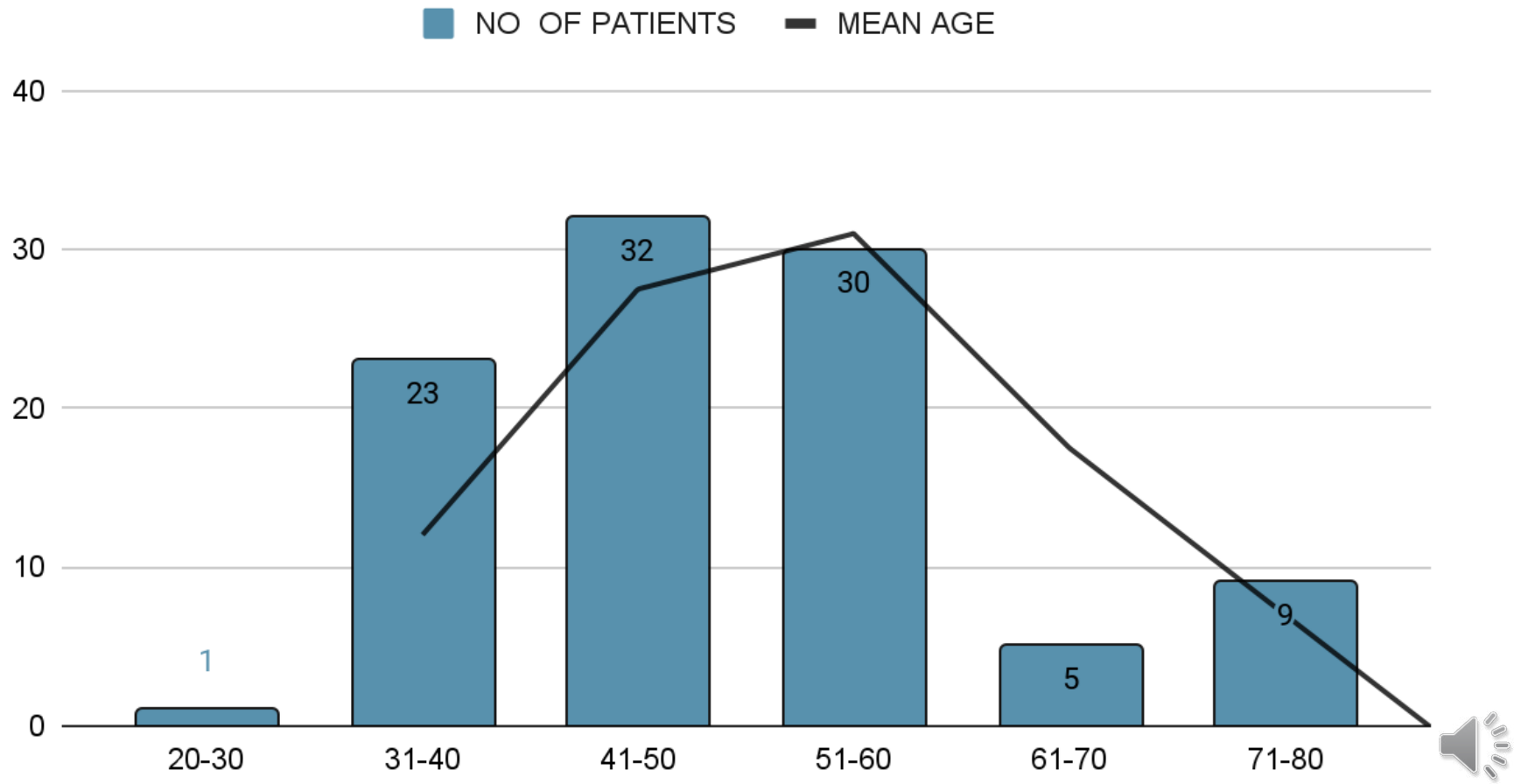
| MALE | FEMALE |
|---|---|
| 70 | 38 |

## SEX DISTRUBUTION OF CORNEAL ULCERS



| **AGE GROUP** | NUMBER OF CASES |
|---|---|
| 20-30 | 1 |
| 31-40 | 23 |
| 41-50 | 32 |
| 51-60 | 30 |
| 61-70 | 5 |
| 71-80 | 9 |

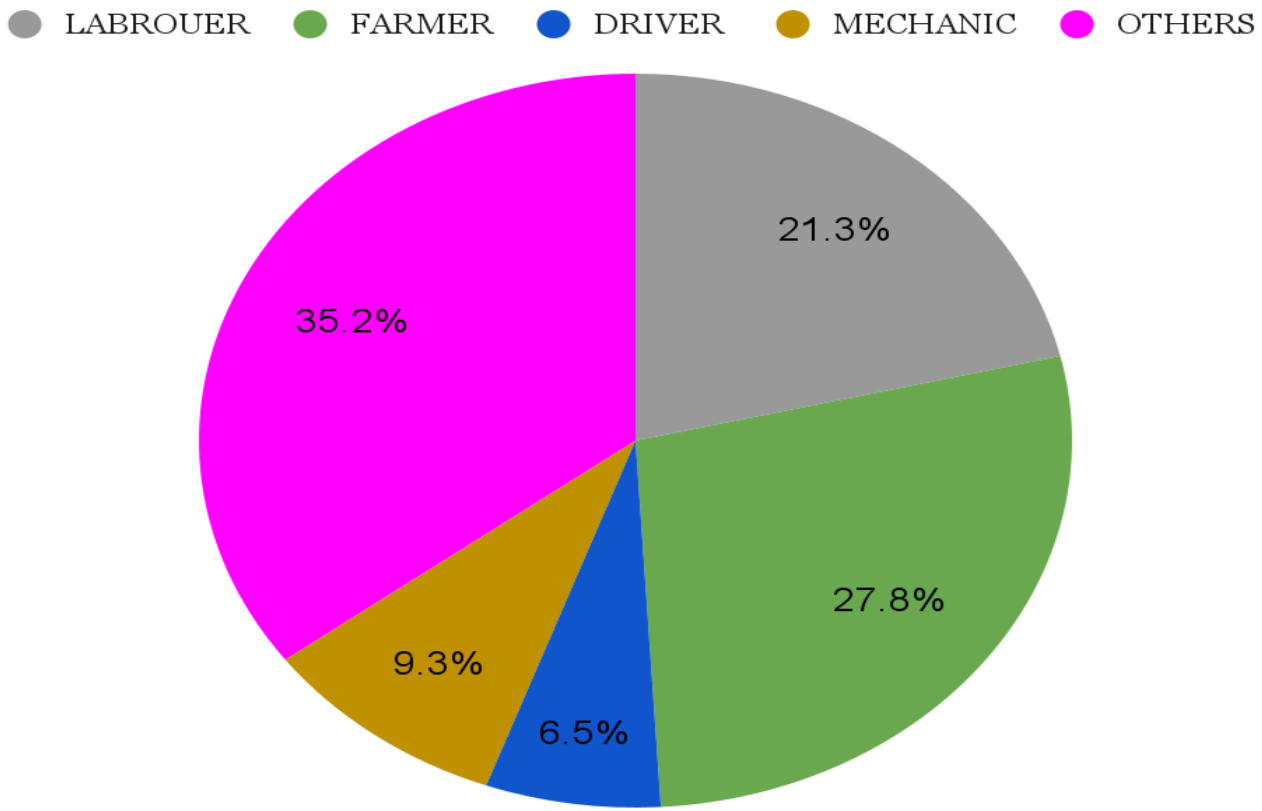
# AGE DISTRIBUTION OF CORNEAL ULCERS



# OCCUPATION

| OCCUPATION | NO OF PATIENTS |
|---|---|
| LABOURER | 23 |
| FARMER | 30 |
| DRIVER | 7 |
| MECHANIC | 10 |
| OTHERS | 38 |

# OCCUPATION



# DISCUSSION

Trauma is one of the important causes for corneal blindness, thus its spectrum covers all age groups, with greatest impact on the middle age group. Trauma to the eye leading to Infectious keratitis presents early in the course of the disease since it causes painful defective vision. If appropriately managed, vision threatening complications can be limited to a great extent.

In our study, we found the men in the 30-50 year age group to be commonly affected by infectious keratitis(mixed type of corneal ulcer) .

This could be explained by the fact that this group contributes significantly to the workforce in the society. Majority of them were illiterates and labourers by occupation.

With successful medical management, 83 patients responded well , some of them needed intrastromal voriconazole injections. 15 patients progressed to perforation/ impending perforation, in spite of  all modalities of medical management, required Therapeutic keratoplasty.

Sengupta et al , analysed the changing patterns of infectious keratitis over a 7 year period in South India and found increasing incidence of fungal keratitis with a declining trend in bacterial keratitis.

Lalitha et al3 proposed changing economic developments and increased access to antibiotics as one of the reasons for declining trend in smear positive bacterial culture yield. In this study, they have isolated mixed bacterial and fungal colonies in half of the culture positive patients.

**CONCLUSION:**There is a significant burden of corneal blindness in this population, the majority of which is avoidable. Eye health promotion strategies are warranted to raise awareness about the causes and prevention of corneal blindness.

# REFERENCES

1 PREDICTORS OF CORNEAL PERFORATION OR NEED FOR THERAPEUTIC KERATOPLASTY IN SEVERE FUNGAL KERATITIS: A SECONDARY ANALYSIS OF THE MYCOTIC ULCER TREATMENT TRIAL I 112 PRAJNA NV , KRISHNAN T , RAJARAMAN R , PATEL S , SHAH 3114 R , SRINIVASAN M , DAS M , RAY KJ , OLDENBURG 4,5,7 NUSSBAUMER J4,5; MYCOTIC ULCER TREATMENT TRIAL GROUPS 4,5 SD , ZEGANS6 ME , ACHARYA NR,LIETMAN 4,5,7TM , ROSE-CE , MCLEOD

2. TRENDS IN BACTERIAL AND FUNGAL KERATITIS IN SOUTH INDIA, 2002-2012. 121 LALITHA P , PRAJNA NV , MANOHARAN G , SRINIVASAN 222234 M , MASCARENHAS J , DAS M , D'SILVA SS , PORCO TC , KEENAN JD .

3. KANSKI'S CLINICAL OPHTHALMOLOGY - A SYSTEMATIC APPROACH AUTHORS: BRAD BOWLING

4 . GUELL, J. L., EL HUSSEINY, M. A., MANERO, F., GRIS, O. & ELIES, D. 2014. Historical Review and Update of Surgical Treatment for Corneal Endothelial Diseases. *Ophthalmology and Therapy***,** 3, 1-15