



AUDIT OF PROPER TECHNIQUE OF LID TAPING

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ABSTRACT **Background:** To assess the quality of lid taping done in departments handling patients requiring critical care. Method This study is an observational cohort study which assessed the quality of lid taping from May 2022 to October 2022. This study was done in 10-bedded intensive care unit of a tertiary care medical teaching hospital. Retrospective analysis was done during phase 1 and post intervention, phase 2 was conducted. **Result:** A 30% reduction in the incidence of exposure keratitis was observed in these critical care patients. **Conclusion:** Protocolized eye care needs to be emphasised in critical care units along with training and sensitisation of the care givers and staff members towards the same is mandatory.

KEYWORDS : Audit, Intervention, Exposure keratitis

INTRODUCTION:

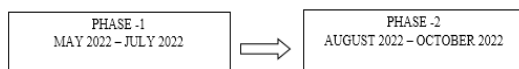
Eye care has become an essential part in the management of a critically ill patients. The corneal epithelium is protected against infection and dryness by the blink reflex and tears. Owing to the decreased level of consciousness in critically ill patients there is an absence of regular blinking, incomplete closure of the eyelids, decreased tear formation and decreased corneal reflex. In addition, the use of sedation for these patients can also be a contributing factor. In about 60% of critically ill patients there is exposure of cornea amounting to the development of surface ocular diseases. Poor visual outcomes in these patients are due to neglected eye care. A study done in India has reported a decrease in incidence of exposure keratitis following a training session for the staff. It is also important to note that, eye care is of utmost importance in the initial 2-7 days.

Improper lid taping, non-adherence to drug frequency as prescribed by the ophthalmologist by the nursing staff could lead to worsening of exposure keratitis which can be potentially blinding

METHODS:

This study is an observational cohort study which assessed the quality of lid taping from May 2022 to October 2022. This study was done in 10-bedded intensive care unit in a tertiary care eye hospital. All mechanically ventilated patients admitted in the intensive care units for more than 24 hours were included.

The audit was conducted in 2 phases. The incidence of exposure keratitis was analyzed by calculating the number of patients developing exposure keratitis during their admission in intensive care unit.



Exposure keratitis standard operating procedure in an intensive care unit setting:

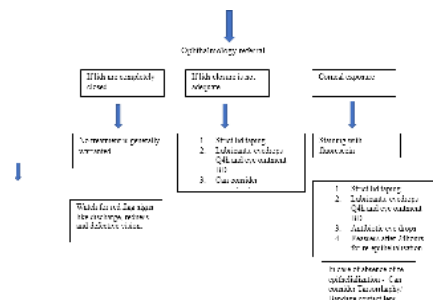
Step 1: Intensive care unit personnel sensitized regarding identification of exposure keratitis, need for early detection and Ophthalmology referral ICU personnel maintain lid hygiene with gauze soaked in warm water under aseptic precautions

Phase 1 was a retrospective analysis of patients admitted in intensive care units with exposure keratitis.

Following this analysis, a short training session based on SOP was conducted to train staff nurse handling these patients regarding proper eye care with special emphasis on lid taping. Phase 2 was conducted post intervention.

Demographic characteristics, co-morbidities, reason of ICU

admission, and the length of ICU stay were recorded in a proforma. Patients were assessed with fluorescein staining and examination using a light source with a cobalt-blue filter prior to inclusion. Patients were assessed and followed up every day. Care givers were instructed to give immediate ophthalmology referral during any point of the day, if they noticed sudden increase in redness, discharge and in case of conscious, oriented patients sudden increase in pain, sudden drop in vision were to be monitored.



RESULTS:

In phase 1 retrospective analysis was done for a period of three months from May 2022-July 2022, during this period the incidence of exposure keratitis was about 40%. Following the intervention, phase 2 was conducted from August 2022 to October 2022. In phase 2, the incidence of exposure keratitis was about 10%

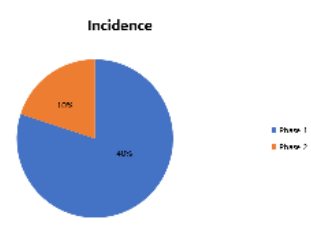


Figure 1 : Incidence of exposure keratitis during phase 1 and phase 2

DISCUSSION:

Our study observed a significant decrease in incidence of exposure keratitis following a short training session for health care staff.

We observed that exposure keratitis during phase 1 was maximum in patients requiring critical care following road traffic accidents.

In a similar study, the incidence of exposure keratopathy decreased from 44% in the pre-training group to 33% in the post training group in

all ICUs. The high incidence of exposure keratitis in the pre-training can be due to improper lid tapping technique and failure to adhere to protocol.

Bates et al reported that the true incidence of exposure keratitis cannot be assessed in intensive care units due to the absence of slit lamp examination. He also stated that eyelid taping may be the most reliable method of corneal protection.

Azar MF et al stated that there is ample evidence that protocol-based care can improve the clinical outcomes of critically ill patients in terms of length of stay, duration of mechanical ventilation, etc.

LIMITATIONS:

This was a short-term observation with a relatively smaller sample size.

Absence of a portable slit lamp can also be a limitation because we were unable to pick up early presentation of the disease.

CONCLUSION:

The incidence of exposure keratopathy decreased from 40% in the pre training group to 10% in the post training group Based on our observations, a protocolized and quality eye care can reduce vision threatening complications in critically ill patients because frequently eye care seems to be neglected, owing to the severity of the general condition of the patient.

ACTION PLAN:

Sensitization of nursing staff, residents and faculties will be conducted every quarter to minimize the complications to the bare minimum.

RE-AUDIT:

Re-audit will be conducted for the next quarter to assess the success of the audit.

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