Sandwell and West Birmingham Hospitals NHS
NHS Trust

Prophylactic Protective Treatment of the Eye in the Intensive Care Unit

Most sight-threatening complications of the front part of the eye in the Intensive Care Unit (ICU) are preventable. These include:

- Exposure of the cornea (clear dome shaped window of the eye)
- Corneal abrasion
- Infection

Chemosis (bulging of the conjunctiva) occurs when there is compromised venous return in patients on prolonged ventilation. This results in conjunctival oedema and increases the risk of complications. Please take the following measures to protect the eyes of all ventilated patients:

Recommendations for all ventilated patients in ICU

- Daily **aseptic** ocular lid hygiene during acute illness using three steps:
  1. Use cotton wool balls soaked in sterile saline to **gently** clean eyelids and periocular skin *taking care not to touch or damage the surface of the eye.*
  2. Perform conjunctival and ocular surface antisepsis by applying a few drops of povidone iodine 5% for 5 minutes*.
  3. Gently irrigate the ocular surface with sterile saline drawn in a 10 ml syringe.

- Administer broad-spectrum topical antibiotic eye drops as prophylaxis with preservative free single dose unit applicators 4x per day. Use a separate unit dose applicator for each eye.

  e.g. levofloxacin, moxifloxacin, azithromycin.**

- Apply paraffin-based ointment every two hours using a separate ointment tube for each eye.
- e.g. *Vit-A-Pos, Xailin Night, Hydramed Night, Chloramphenicol ointment****.

- In the unconscious patient, tape lids to prevent corneal exposure.

Notes:

* **Povidone Iodine**: Use Minims® Povidone Iodine 5% w/v 0.4 ml unit dose in each eye. If Minims® single dose units not available, povidone Iodine 10% skin preparation solution diluted to 5% with saline may be used as an alternative. Iodine is an effective antiseptic agent for prevention of ocular infection. It is also effective in reducing COVID-19 viral load.

** **Azithromycin**: Macrolide capable of reducing COVID 19 viral load.

*** **Chloramphenicol**: Broad spectrum of activity to Staphylococcal, Streptococcal and some Escherichia species; ***NB pseudomonas resistant***. (Fluroquinolones group antibiotics are preferred in ICU settings).

For additional advice and guidance, please send brief details, a photograph of the eye(s) to the Corneal Team at the Birmingham and Midland Eye Centre (Cornea-BMEC <swbh.cornea-bmec@nhs.net>).