Eye care in intensive care

Modified guidance for ventilated patients including patients in the prone position

Risks

All patients on ventilators have a risk of exposure of the cornea and developing corneal infection. This can occur irrespective of body position.

When ventilating patients in the prone position there should be good access to examine the eyes regularly (every four hours). The key is to reduce ocular surface dryness and keep the ocular surface lubricated. Corneal abrasions in most cases can be managed without ophthalmology review by following the protocol described below.

Referral to on-call Ophthalmology team should only occur after local medical review.

Ocular examination

<table>
<thead>
<tr>
<th>Grade 0</th>
<th>Eyes totally closed</th>
<th>Grade 1</th>
<th>Eyes slightly open</th>
</tr>
</thead>
<tbody>
<tr>
<td>No action.</td>
<td>Use simple eye or Vit A POS or Xalin eye ointment every four hours.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 2</th>
<th>Cornea exposed</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply micro pore tape horizontally and apply ointment as grade 1 every four hours.</td>
<td>Eye lid taping</td>
<td>Red and stick eye</td>
</tr>
<tr>
<td>Check corneal clarity with bright light.</td>
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</tr>
</tbody>
</table>

Red eye

Red and sticky - cornea clear

- Take swab
- Use chloramphenicol ointment four times a day (add ofloxacin eye drops four times a day if prone)
- Condition is contagious and can be transmitted to other patients
- Alert medical staff if no better in 24 hours.

Red but not sticky

- Is the cornea clear or does it stain with fluorescein drops?
- If clear cornea or simple abrasion, check usage of chloramphenicol ointment. If abrasion present use ofloxacin eye drops four times a day. Consider lid taping.
- Alert medical staff if corneal opacity or eye not dry.

Fluorescein staining

If corneal abrasion is suspected instill sodium fluorescein (or use fluorescein strips wetted with sterile normal saline) into the eyes and illuminate with a blue light (use blue filter on pen torch or most ophthalmoscopes) and observe naked eye.

Eye care in the ICU

<table>
<thead>
<tr>
<th>Grade 0</th>
<th>No action unless in prone position.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 1</td>
<td>Eyes need lubricating every four hours</td>
</tr>
<tr>
<td>Clean off old ointment before putting in new</td>
<td></td>
</tr>
<tr>
<td>Pull lower lid down and instil ointment onto eye between lower lid and conjunctiva</td>
<td></td>
</tr>
<tr>
<td>Always check corneal clarity with bright light.</td>
<td></td>
</tr>
</tbody>
</table>

Grade 2 Eyes need lubricating and lids taping

- Apply ointment as for Grade 1
- Close lids, ensure lashes outside eye and lids free of ointment
- Tape upper lid down with micropore tape horizontally
- Always check corneal clarity with bright light.

Alert medical staff if corneal opacity or eye not dry.

Risk of infection. Use ofloxacin eye drops four hourly and chloramphenicol eye ointment four times a day.

Alert medical staff if corneal opacity or eye not dry.

Chemosis

If corneal is not clear - alert medical staff.

Prone patient & unconscious

Major risk to eye in all cases

- Conjunctiva can get swollen (chemosis see above)
- Apply chloramphenicol eye ointment four times a day and instill as in Grade 1
- Close lids, ensure lashes outside eye and lids free of ointment micropore tape horizontally
- Always check corneal clarity with bright light.

Modified from Royal College of Ophthalmologists guidelines on Eye care in intensive care units - author Parvez Hossain