Disclaimer

SEE ALSO: red eye, corneal abrasion

DESCRIPTION

Recurrent corneal erosion syndrome (RCES) is an epithelial disorder characterised by loose/irregular epithelium or a frank epithelial defect, often on a background of past epithelial trauma or corneal dystrophy.

HOW TO ASSESS

Red Flags:
- Exclude viral or microbial keratitis
- Examine both eyes to exclude a corneal dystrophy
- Evert upper lids – rule out subtarsal foreign body

On History:
- Symptoms: recurrent attacks of acute ocular pain, photophobia, foreign body sensation and epiphora. Typically occurs at time of waking.
- Aetiology:
  Abnormal corneal epithelial healing following damage to the corneal epithelium and epithelial basement membrane most commonly from one of the following mechanisms:
  - Previous traumatic corneal abrasion by a sharp object (fingernail, paper, tree branch); the injury may have been so trivial that the patient may not recall the incident.
  - Any ocular intervention where there is a potential for a corneal epithelial defect e.g. kerato-refractive surgery
  - Corneal dystrophy (see below)

On Examination:
- Conjunctival injection
- Localised area of irregular corneal epithelium or a corneal defect staining with fluorescein.
  - Epithelial changes may resolve within hours of onset of symptoms so an abnormality may be difficult to detect at time of examination. Fluorescein dye may show an area of irregular staining in the area of the erosion.
- Document size of epithelial involvement before and after debridement (see Acute Management)
- Corneal dystrophy - anterior basement membrane dystrophy (Map-dot-fingerprint dystrophy) i.e. microcysts, fingerprint patterns or map-like whorls on both corneas
ACUTE MANAGEMENT:

- Antibiotic ointment or drops (chloramphenicol) QID until epithelial healing is complete.
- If epithelium is loose, consider epithelial debridement with a sterile cotton-tipped applicator under topical anaesthesia (e.g. oxybuprocaine) or 25G needle tip. This may enlarge the epithelial defect significantly if the surrounding epithelium is abnormal.
- Consider bandage contact lens (BCL) if epithelial defect is large and the patient has significant discomfort. Warn patient of increased infection risk and the need to attend follow up appointment. Remember to cover with antibiotic drops (e.g. chloramphenicol eye drops QID) while contact lens is in place. BCL must be documented in the medical notes.
- Consider stat dose of cyclopentolate 1% eye drops, one drop to reduce pain secondary to ciliary spasm. Cycloplegia (cyclopentolate 1% eye drops TDS) for ongoing analgesia.
- Cool compresses
- Never prescribe topical anaesthetic drops for home use
- Once symptoms resolved (usually 3-5 days) the following are recommended:
  - Lubricate regularly during the day (4-6 times a day) with artificial tears e.g. hypromellose
  - Use a paraffin based ointment before bed (e.g. Refresh Night Time®, Ircal®, Polyvisc®) for 3-6 months
- If erosions are poorly responsive to lubrication or recurrences are frequent, consider referral to the Corneal Unit after discussion with the Corneal Fellow.

FOLLOW UP:

- May not be required in mild cases with small epithelial defect
- Patients with BCL must be reviewed in 5-7 days
- Always document if a BCL is inserted

DISCHARGE INSTRUCTIONS:

- Warn patients about the likelihood of recurrence and the need for regular lubrication (particularly at night-time) to minimise recurrences
- Advise patient to return if pain worsens or vision deteriorates
- All patients with a BCL must be told of the importance of follow up, especially if increased pain

See Recurrent Corneal Erosion Syndrome Factsheet

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## Evidence Table

<table>
<thead>
<tr>
<th>Author/s</th>
<th>Title</th>
<th>Source</th>
<th>Level of Evidence (I – VII)</th>
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<tbody>
<tr>
<td>Denniston AKO and Murray PI</td>
<td>Oxford Handbook of Ophthalmology (2nd edition)</td>
<td>Oxford University Pre</td>
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## The Hierarchy of Evidence

The Hierarchy of evidence is based on summaries from the National Health and Medical Research Council (2009), the Oxford Centre for Evidence-based Medicine Levels of Evidence (2011) and Melynk and Fineout-Overholt (2011).

I  Evidence obtained from a systematic review of all relevant randomised control trials.
II Evidence obtained from at least one well designed randomised control trial.
III Evidence obtained from well-designed controlled trials without randomisation.
IV Evidence obtained from well designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case series.
V  Evidence obtained from systematic reviews of descriptive and qualitative studies.
VI Evidence obtained from single descriptive and qualitative studies.
VII Expert opinion from clinician, authorities and/or reports of expert committees or based on physiology.
These CPGs were written for use in the RVEEH speciality Emergency Department. They should be used under the guidance of an ENT or Ophthalmology registrar, and certain medications / procedures should only be undertaken by speciality registrars.
If you require clinical advice, please contact our admitting officer for assistance:
EYE: 03 9929 8033 ENT: 03 9929 8032