Herpes Simplex Keratitis

Disclaimer

COVID-19 note

The Royal Australian and New Zealand College of Ophthalmologists (RANZCO) and The Royal Australian College of General Practitioners (RACGP) have made recommendations regarding eye examination during the COVID-19 pandemic. See RANZCO – COVID-19: Practical Guidance for General Practitioners Performing Eye Examinations.

Last updated: 18 May 2020

Contents

Disclaimer .............................................................................................................................. 1
Red Flags .......................................................................................................................... 2
Background – About Herpes Simplex Keratitis ................................................................. 2
Assessment ....................................................................................................................... 2
Management .................................................................................................................... 3
Referral ............................................................................................................................ 3
Information ...................................................................................................................... 4
For health professionals ................................................................................................. 4
For patients ....................................................................................................................... 4
Disclaimer ......................................................................................................................... 4
Red Flags

- Corneal infiltrate, haze, or opacity
- Significantly reduced vision
- Unilateral red eye

Background – About Herpes Simplex Keratitis

- The most common cause of an epithelial ulcer, apart from trauma.
- One of many causes of a unilateral red eye.
- Primary ocular infection usually occurs in childhood. It is mostly self-limiting and confined to the eyelids and the conjunctiva.
- Reactivation of the latent virus usually occurs in adulthood. Virus travels down the trigeminal nerve and enters the cornea.
- Virus replication in the corneal epithelium leads to ulceration (dendritic ulcer).
- Ulcers generally heal without scarring, but in a few, inflammation spreads into the deeper corneal stroma (stromal keratitis) and can cause scarring and significant visual loss.
- Often leads to decreased corneal sensation which can result in secondary bacterial infection

Assessment

1. Take a history:
   - Red eye, blurred vision, sensitive to light.
   - Mild to moderate pain, usually for up to one week.

2. Perform examination:
   - Mild corneal haze – can be seen easily on examination of the red reflex at arm's length (a good way to check a child).
   - Vesicles around the lids are seen only in primary childhood HSV infection (rare in adults).
   - Fluorescein uptake by the cornea with a branching pattern. This is very specific to herpes simplex virus (HSV).

3. Check vision. This ranges from normal (peripheral dendrite) to moderately poor (i.e., around 6/48) when the defect goes through the central cornea.

4. Take an HSV PCR swab from the cornea.

5. Consider differential diagnosis:
   - [corneal abrasion] – has a shorter history and trauma on history.
   - [bacterial keratitis] – no branches, usually has an opacity in the cornea.
Management

1. If significantly reduced vision or visible corneal opacity, seek ophthalmology advice.

2. For epithelial keratitis or dendritic ulcer:
   - Treat with 3% aciclovir ointment 5 times daily, for 14 days, or for at least 3 days after healing.
   - Topical steroids are to be avoided except under ophthalmology guidance.
   - Provide pain relief and advise patient to wear dark glasses.

3. Arrange review of the patient:
   - Review within 48 hours.
   - Ask the patient to return if symptoms are getting worse before specialist assessment.

4. Request prompt urgent or routine ophthalmology assessment if:
   - dendritic ulcer.
   - suspected herpes simplex keratitis.
   - a child with:
     - vesicles and a red eye, or
     - photophobia or abnormal red reflex.

5. If non-healing ulcer, request urgent or routine ophthalmology assessment.

Referral

- If significantly reduced vision or visible corneal opacity, seek ophthalmology advice.
- Request prompt urgent or routine ophthalmology assessment if:
  - dendritic ulcer.
  - suspected herpes simplex keratitis.
  - a child with:
    - vesicles and a red eye, or
    - photophobia or abnormal red reflex.
- If non-healing ulcer, request urgent or routine ophthalmology assessment.
- Your patient may wish to consider referral to an optometrist. Optometrists can assess and manage some of these conditions. Warn patients that on-referral to an ophthalmologist may be required.
Information

For health professionals

Further information
- GP Eyes – Herpes Simplex [subscription required]
- Medscape – Herpes Simplex Virus (HSV) Keratitis
- NSW Health – Red Eye: Eye Education for Emergency Clinicians

For patients
- Australian Indigenous HealthInfoNet – HSV: Herpes Simplex Virus
- Patient – Eye Infection (Herpes Simplex)

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Last updated: June 2020