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ADULT CORNEAL ABRASION (MINOR)

DEFINITION

A superficial corneal defect due to scraping or rubbing of the corneal epithelium.

POTENTIAL CAUSES

Usually trauma or foreign body in the eye (dust, fingernails, mascara brushes, excessive rubbing, contact lens use) is the cause.

TYPICAL FINDINGS OF CORNEAL ABRASION

History

- Sudden unilateral eye pain (sharp or worse with blinking)
- Mild blurred vision (due to tearing) may be present
- Mild photophobia
- Moderate to profuse tearing
- Foreign-body sensation
- Trauma
- Extended contact lens wearing

Physical Assessment

- Vital signs normal
- Visual acuity may be slightly blurred in affected eye
- Diffuse conjunctival injection¹
- Central conjunctival injection or ciliary flush often denotes a more serious problem than slight but diffuse injection
- Pupils round and react briskly to light

¹ Conjunctival injection refers to redness (bright red or pink) of the conjunctiva fading towards the limbus due to dilatation of the superficial conjunctival blood vessels occurring in conjunctival inflammations – e.g., conjunctivitis.

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The DSTs are not intended to replace the RN(C)'s professional responsibility to exercise independent clinical judgment and use evidence to support competent, ethical care. The RN(C) must consult with or refer to a physician or nurse practitioner as appropriate, or whenever a course of action deviates from the DST.

- Presence of a foreign body under the upper or lower eyelid must be ruled out. Evert the lids and inspect carefully.

Diagnostic Tests

- Apply fluorescein stain. Corneal cells that are damaged or lost will stain green; cobalt blue light allows easier visualization of the abrasion.

MANAGEMENT AND INTERVENTION

Goals of Treatment

- Prevent secondary bacterial infection
- Prevent development of corneal ulceration

Non-pharmacologic Intervention

- Copious irrigation with saline for any foreign body to promote removal
- Do not use contact lens until healed
- Patching is contra-indicated unless advised by a physician or nurse practitioner

Pharmacologic Interventions

- Instill topical anesthetic eye drop:
 - tetracaine 0.5% eye solution (pontocaine) 2 drops stat dose only

Note: The client should not be discharged with topical anesthetics for pain control as they can be toxic to the epithelium and retard healing, increasing the risk of infections and scarring

- Complaints of irritation and foreign-body sensation should resolve in 1 or 2 minutes
- Instill a generous amount of eye lubricant such as lacrilube in the lower conjunctival sac
- Analgesics for mild to moderate pain:
 - acetaminophen 325mg, 1-2 tabs po q4-6h prn, or
 - ibuprofen 200mg, 1-2 tabs po q4-6h prn

Note: Corneal abrasions should never be treated with topical steroids as they slow healing and increase the risk of superinfection.

Pregnant or Breastfeeding Women (same dosing as above)

- Lacrilube and acetaminophen may be used as listed above
- Tetracaine should only be used if necessary.
- DO NOT USE ibuprofen.

POTENTIAL COMPLICATIONS

- Corneal ulceration

- Secondary bacterial infection
- Corneal scarring if abrasion recurs
- Uveitis
- Iritis

CLIENT EDUCATION /DISCHARGE INFORMATION

- Advise client that daily follow-up is important to ensure proper healing.
- Counsel client about appropriate use of medications (type, dose, frequency, side effects).
- Instruct client to return to clinic immediately if pain increases or vision changes before 24-hour follow-up.
- Client should return if there are changes such as flashes of light, floaters, a dark veil or vision loss.
- Suggest that client wear protective glasses while working or participating in contact sports, to help prevent similar incidents in future.
- Do not wear contact lens until healed.

MONITORING AND FOLLOW-UP

- Follow-up at 24 hours to assess healing is imperative.
- If no symptoms or signs, client can be sent home with advice on preventing corneal abrasions.
- If the client is still symptomatic but improving, then the eye should be re-treated as above with lubricant, and re-examined daily with fluorescein. The uptake of dye should be less than on the previous day. Re-examine daily until the abrasion has healed completely.

CONSULTATION AND/OR REFERRAL

- Consult a physician or nurse practitioner if
 - there is a large or central corneal abrasion,
 - a penetrating corneal ulcer is found on initial examination,
 - pain is severe,
 - pupils are not round,
 - the abrasion does not respond to therapy after 48 hours,
 - the abrasion is larger after 24 hours,
 - a residual rust ring is evident, or
 - there is significant worsening of vision.
- Referral to an optometrist, nurse practitioner or physician is required within 24 hours for large or central defects and in 48-72 hours if there is no response to therapy.

DOCUMENTATION

- According to agency policy

REFERENCES

For help obtaining any of the items on this list, please contact CRNBC Helen Randal Library at circdesk@crnbc.ca

More recent editions of any of the items in the Reference List may have been published since this DST was published. If you have a newer version, please use it.

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