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ADULT CONJUNCTIVITIS

DEFINITION

Inflammation and erythema of the conjunctiva, caused by hyperemia of tortuous superficial vessels secondary to infection (viral or bacterial) or allergic reaction (histamine).

POTENTIAL CAUSES

- Conjunctivitis is usually viral or bacterial
- The allergic form is more common when accompanied by other allergic symptoms such as rhinitis
- Wearing contact lenses
- Other causes include preseptal or orbital cellulitis, corneal injury, uveitis and glaucoma all of which are referred to a physician or nurse practitioner

Bacterial

- *Staphylococcus aureus*
- *Streptococcus pneumonia*
- *Haemophilus influenza (non-typable)*
- Chlamydia
- *Neisseria gonorrhoea*

Viral (up to 80% of the cause of infectious conjunctivitis)

- Adenovirus
- Coxsackie virus
- ECHO virus (Echovirus is a type of RNA virus that belongs to the genus Enterovirus of the Picornaviridae family)
- Herpes simplex virus

Allergic

- Seasonal pollens
- Environmental exposure

PREDISPOSING RISK FACTORS

Contact with another person who has conjunctivitis, other atopic (allergic) conditions, and exposure to allergens or exposure to a sexually transmitted infection (STI).

TYPICAL FINDINGS OF CONJUNCTIVITIS

Physical Assessment

- Vital signs
- Visual acuity
- Assess both eyes for symmetry
- Assess eyelids and orbits for crusting, edema, ulceration, nodules, discoloration, inversion of eyelashes, papillary reaction
- Palpate the bony orbit, eyebrows, lacrimal apparatus and pre-auricular lymph nodes for tenderness, swelling or masses
- Assess the conjunctiva for erythema, edema, discharge, foreign bodies, phlyctenules (white granules on corneal edge surrounded by erythema) or other abnormalities
- Note the pattern of injection, such as conjunctival haemorrhage or ciliary flush[1]
- Pupils equal, round, reactive to light and accommodation (PERRLA)
- Examine the anterior segment of the globe with a small penlight
- Assess ocular mobility by checking range of movement
- Use a fluorescein stain to assess for corneal abrasion or ulcers if history or physical findings suggest corneal abrasion. Corneal cells that are damaged or lost will stain green; cobalt blue light allows easier visualization of the abrasion.
- Perform a general assessment if the client appears systemically ill (i.e., fever)
- Carefully document all evidence of external trauma

Bacterial

History

- Eye(s) red, often unilateral initially, may spread to both eyes
- Burning, gritty sensation or foreign body sensation in eyes
- Thick, purulent discharge with crusting
- Complicating bacterial infections, such as otitis media, may be evident

[1] Ciliary injection or ciliary flush refers to redness (almost lilac) around the limbus of the eye caused by dilatation of the deeper small blood vessels located around the cornea. It occurs in inflammation of the cornea, iris and ciliary body, and in angle-closure glaucoma.

- Recent contact with others with similar symptoms
- Recent sexual activity and possible STI

Common Findings

- Conjunctiva erythematous (unilateral or bilateral)
- Chemosis (swelling of conjunctiva) if severe
- Purulent discharge
- PERRLA
- Visual acuity normal
- Pre-auricular nodes palpable in *Neisseria gonorrhoea* and Chlamydia

Viral

History

- Acute onset of conjunctival injection[2] commonly preceded by a viral upper respiratory tract infection (URTI)
- May begin unilateral, but often bilateral within 24-48 hours
- Mild to no pain, possibly gritty sensation or mild itching
- Tearing or mucoid discharge
- Systemic symptoms may be present (e.g., sneezing, runny nose, sore throat, preauricular lymphadenopathy)
- Recent contact with others with similar symptoms

Common Findings

- Conjunctiva erythematous (unilateral or bilateral)
- Chemosis and eyelid edema (swelling of conjunctiva due to non-specific irritation) if severe
- Watery or mucoid discharge
- PERRLA
- Visual acuity – normal
- Swollen eyelids
- Lasts 1-4 days; infectious for up to 2 weeks
- Dendritic keratitis on fluorescein staining with herpes simplex virus

Note: clinical factors cannot reliably differentiate viral from bacterial causes

[2] 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.

Allergic

History

- Seasonal, known, or environmental allergies, allergic rhinitis
- Eczema, asthma, urticaria
- Bilateral watery, red, itchy eyes, without purulent drainage

Common Findings

- Conjunctiva erythematous
- Chemosis and eyelid edema (swelling of conjunctiva due to non-specific irritation)
- Clear watery discharge
- PERRLA
- Visual acuity - normal

Diagnostic tests

- May require a culture and sensitivity (C&S) if no response to treatment or if an STI is suspected

MANAGEMENT AND INTERVENTIONS

Note: Review Appendix 1: Algorithm for Diagnosing the Cause of Red Eye

Goals of Treatment

- Relieve symptoms and resolution of infection
- Rule out more serious infections (e.g., uveitis)
- Prevent complications
- Prevent household spread

Non-pharmacologic Interventions

- Apply warm or cool compresses to eyes, lids and lashes qid for 15 minutes
- Clean eyelids gently of discharge with warm water and a disposable wipe such as cotton swab or tissue
- Avoid rubbing the eye(s)
- Public health measures that support good hygiene (i.e., frequent hand-washing, use of separate clean face cloth and towels).

Pharmacologic Interventions

Note: Never use steroid or steroid-and-antibiotic combination eye drops, because the infection may progress or a corneal ulcer may rapidly form and cause perforation.

Bacterial

Acute conjunctivitis is frequently self-limiting, and antibiotics are of limited benefit. It may be appropriate to hold antibiotics for two or three days and start therapy if no improvement or the condition worsens.

- Topical antibiotic eye drop or ointment:
  - polymyxin B gramicidin eye drops, 2 or 3 drops qid for 7-10 days, or
  - sulfacetamide 10% eye drops, 2 or 3 drops q3-4 hrs for 7-10 days, or
  - bacitracin-polymyxin eye ointment qid for 7-10 days, or
  - erythromycin 0.5% eye ointment qid for 7-10 days

- An antibiotic eye ointment may be used at bedtime in addition to the daytime antibiotic eye drops prn:
  - erythromycin 0.5% eye ointment for 5-7 nights at bedtime **OR**
  - bacitracin-polymyxin ointment for 5-7 nights at bedtime.

If the infection has been determined to be due to chlamydia or gonorrhea, systemic treatment is required and topical treatment is not necessary. Please refer to the appropriate STI DST.

Viral

- Artificial tears or cool compresses often provide excellent symptomatic relief (antibiotics are not indicated)
- artificial tears, 1 or 2 drops prn

Allergic

- Artificial tears or cool compresses often provide excellent symptomatic relief (antibiotics are not indicated)
- artificial tears, 1 or 2 drops prn

- Oral antihistamines may be tried if symptoms are severe. Most common side effects are drowsiness, dry mouth, and fatigue. Use with caution in elderly clients and in clients with known hepatic or renal dysfunction.
  - cetirizine 10 mg tab, 1 po daily, or
  - loratidine 10 mg tab, 1 po daily, or
  - desloratadine 5 mg tab, 1 po daily.

- Topical antihistamine eye drops are recommended if symptoms are not controlled by oral antihistamines or oral antihistamines cannot be tolerated:
  - Cromolyn Na 4% eye drops, 1-2 drops every 4-6 hrs.

Pregnant and Breastfeeding Women (dosing as above)

- Erythromycin eye ointment, polymyxin B gramicidin eye drops, bacitracin-polymyxin eye ointment, artificial tears, cromolyn Na, cetirizine and loratidine may be used as listed above.
- ONLY USE sulfacetamide if clearly needed.
- DO NOT USE desloratadine

POTENTIAL COMPLICATIONS

- Spread of infection to other eye structures
- Spread of infection to other household members

CLIENT EDUCATION/DISCHARGE INFORMATION

- Advise on condition, timeline of treatment and expected course of disease process.
- Counsel the client about appropriate use of medications (dose, frequency, instillation, storage).
- Advise the client to avoid contamination of tube or bottle of medication with infecting organisms.
- Advise client to never share or use another person's eye drops or ointments.
- Recommend avoidance of cosmetics during acute phase (current eye cosmetics should be discarded because they may harbor bacteria and cause recurrent infection). Avoid sharing eye cosmetics.
- Suggest ways to prevent spread of infection to other household members (do not share towels or face cloths, use different areas of the face cloth for each eye).
- Instruct client about proper hygiene of hands and eyes.
- Wash hands often.
- Advise client not to use an eye patch.
- If client wears contact lenses, advise them to discontinue wearing contact lenses until resolved.
- For infectious forms, if symptoms or work/school situation requires, recommend school or work restrictions until improved or there is no further discharge.
- For allergic form, it is recommended that the client avoid going outside when pollen count is high and that protective glasses be worn to prevent pollen from entering the eyes.

MONITORING AND FOLLOW-UP

- Clients with moderate or severe symptoms should be seen for follow-up at 24 and 48 hours.
- Follow up appropriately in 2 or 3 days or sooner if symptoms do not improve.

CONSULTATION AND/OR REFERRAL

Consult a physician or nurse practitioner if:

- condition deteriorates, symptoms persist despite treatment, or symptoms recur (see Appendix 1),
- the diagnosis is in doubt and significant ocular infections like uveitis, herpes, and gonorrhea cannot be ruled out,
- there is associated trauma (i.e., blow to eye) (high potential for referral),
- visual acuity is decreased or deficit in colour vision,
- moderate or severe pain,
- atypical ocular exam,
- the condition recurs frequently.

DOCUMENTATION

As per 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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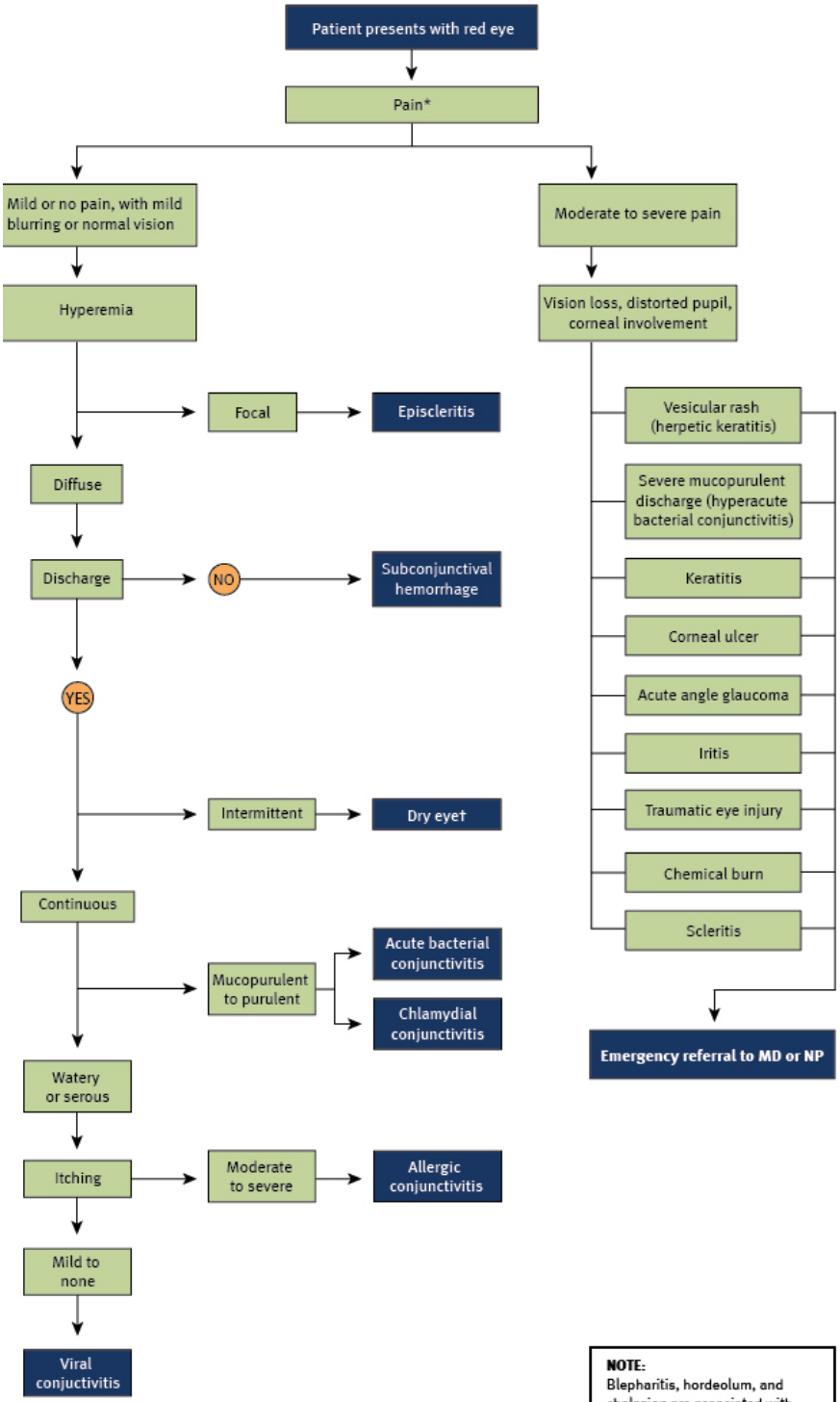
APPENDIX 1: ALGORITHM FOR DIAGNOSING THE CAUSE OF RED EYE



Cronau, Kankanala, & Mauger (2010)

NOTE:
Blepharitis, hordeolum, and chalazion are associated with localized red, swollen, tender eyelid; other symptoms are rare.

* -- patients wtih corneal abrasion may present with severe pain, but treated by a primary care physician.

† -- Paradoxical tearing of the eye.