College of Registered Nurses of Saskatchewan

Blepharitis: Adult & Pediatric

Ears, Eyes, Nose, Throat and Mouth

Clinical Decision Tools for RNs with Additional Authorized Practice [RN(AAP)s]

Effective Date: May 4, 2022

Background

Blepharitis is an inflammation of the eyelid margins with redness, thickening, and formation of scales and crusts, or shallow marginal ulcers (Reinoso, Dunphy, & Porter, 2019). Blepharitis can be divided anatomically into anterior blepharitis (involving eyelashes and follicles) or posterior blepharitis (involving dysfunction of the meibomian glands) (Reinoso et al., 2019). Blepharitis may be acute or chronic and further defined as inflammatory (non-infectious) or infectious. Infectious blepharitis is typically bacterial but can also be viral, fungal, or parasitic (Reinoso et al., 2019).

Immediate Consultation Requirements

The RN(AAP) should seek immediate consultation from a physician/NP when any of the following circumstances exist:

- change in visual acuity;
- systemic symptoms including fever;
- corneal involvement;
- severe pain;
- photophobia;
- redness over limbus area;
- small or hypo-reactive pupils or new anisocoria;
- posterior blepharitis, which affects the inner edge of the eyelid that comes into contact with the eyeball;
- red eye and foreign body sensation;
- marked eyelid asymmetry; and/or
- spread of infection beyond the eyelid margins (e.g., orbital or periorbital cellulitis) (Interprofessional Advisory Group [IPAG], personal communication, August 28, 2019; Reinoso et al., 2019).

Predisposing and Risk Factors

Predisposing and risk factors for blepharitis include:

- contact allergies,
- chemical irritants (e.g., air pollution, bear spray, pepper spray),
- poor hygiene,
- poor nutritional status,
- cosmetics/make-up,
- contact lenses,
- seborrheic dermatitis,
- acne rosacea,
- psoriasis,
- yeast infections,
- pterygium,
- diabetes,
- ulcerative colitis,
- irritable bowel syndrome,
- gastritis, and/or
- immunocompromised states (AIDS, chemotherapy) (Reinoso et al., 2019; Schraufnagel et al., 2019)

Health History and Physical Exam

Subjective Findings

The circumstances of the presenting complaint should be determined. Clients with blepharitis may present with:

- sore, swollen eyelids;
- red, irritated, burning, or itchy eyes;
- dry or watery eyes;
- increased blinking;
- foreign body sensation;
- photophobia;
- contact lens intolerance;
- eyelids glued together, typically worse in the morning and accompanied by flaking and crusting;
- loss of lashes;
- blurred vision; and/or
- history of seborrhea (of the scalp, brows, or ears), rosacea or psoriasis (Reinoso et al., 2019; Schraufnagel et al., 2019).

Objective Findings

The physical exam includes an examination of the skin and eye with a focused light source (penlight or otoscope lamp). Findings related to the following structures may be present:

- Inspection of the anterior and posterior eyelid margins may reveal:
  - swollen eyelids;
  - pink, irritated, and thickened edges;
  - visible crusting of lashes or lid margins;
  - enlargement of meibomian gland opening on the inner edge of the eyelid, which may be related to thick, waxy secretions that plug meibomian gland openings;
  - presence of ulceration/scarring;
  - inward (entropion) or outward (ectropion) turning of eyelid;
  - irregularity (tylosis) of lid margins; and/or
  - chalazion (painless lump to posterior eyelid margin may be present) (Reinoso et al., 2019; Schraufnagel et al., 2019).
- Eyelashes:
  - greasy-appearing flakes/scales at the base of cilia margins and around lashes (more common in seborrheic variant);
  - cylindrical dandruff resembling "sleeves" on the eyelash;
  - hard cylindrical crust around the eyelash "collarette";
  - misdirection, breakage, or loss of lashes; and/or
  - hypopigmentation of eyelashes (Reinoso et al., 2019; Schraufnagel et al., 2019).
- Conjunctiva (tarsal and bulbar):
  - diffuse conjunctival injection of the tarsal and/or bulbar conjunctivae (Reinoso et al., 2019; Schraufnagel et al., 2019). Note: the tarsal conjunctiva lines the eyelid and is assessed by everting the eyelid and the bulbar conjunctiva covers the eyeball (Bickley, 2017).
- Cornea:
  - tear film;
  - erosions, ulcers, and/or scarring confirmed using tetracaine (local anesthetic), followed by fluorescein stain and assessment using cobalt blue filter on ophthalmoscope (Reinoso et al., 2019).
- Visual acuity:
  - assess affected and unaffected eye and visual acuity of both eyes, alterations in visual acuity may indicate a serious underlying problem (Reinoso et al., 2019).

Differential Diagnosis

The following should be considered as part of the differential diagnosis:

- acne rosacea,
- seborrheic dermatitis,
- acne vulgaris,

- atopic dermatitis,
- carcinoma,
- herpes simplex,
- conjunctivitis,
- hordeolum (stye),
- dry eye syndrome,
- chalazion, or
- other eyelid inflammatory conditions (Reinoso et al., 2019)

Making the Diagnosis

The diagnosis is based on history and physical findings.

Investigations and Diagnostic Tests

Swab exudate for culture and sensitivity if there is no response to empiric treatment.

Management and Interventions

Goals of Treatment

The primary goals of immediate treatment are to alleviate symptoms and minimize or prevent future exacerbations.

Non-Pharmacological Interventions

The RN(AAP) should recommend, as appropriate, the following non-pharmacological options:

- Lid hygiene to be performed bid as follows: first, apply warm compresses for five minutes to soften the scales and crusts. Next, gently scrub the eyelid margin and the bases of the eyelashes with a solution of water and baby shampoo (90 mL [3 ounces] water and three drops of shampoo) or commercial products such as Lid-Care ™. Rinse with clear water and then remove lid debris with a dry, cotton-tipped applicator.
- Natural tear supplements PRN may be required to alleviate symptoms.
- Avoid use of contact lenses or cosmetics during treatment; contact lens wearers are susceptible to more serious ulcers and infection.
- If nits and lice are present in the eyelashes, they can be carefully removed with tweezers followed by application of white petrolatum bid-qid for 10 days.
- Consider nutritional supplements (e.g., omega-3 fatty acids from fish oil and flax-seed oil) to decrease inflammatory cytokines and improve tear function (Anti-infective Review Panel, 2019; Dynamed, 2018; Reinoso et al., 2019; Rousta, 2017).

Pharmacological Interventions

The pharmacological interventions recommended for the treatment of blepharitis are in accordance with the *Anti-infective Guidelines for Community-acquired Infections* (Anti-infective Review Panel, 2019), *Blepharitis* (Dynamed, 2018), and *Blepharitis* (Garrity, 2019).

Topical Antibiotics for Anterior Blepharitis

Topical antibiotics are effective in the short term of an acute phase, but resistance is common with prolonged use. Ointments are preferred for drug delivery as it stays in contact with lid margin longer than drops.

	Drug	Dose	Route	Frequency	Duration
Pediatric and Adult					
	Erythromycin 0.5% eye ointment	apply thin application to eyelid margin with a cotton-tipped applicator	topical	qhs	7-14 days
OR	Tobramycin 0.3% eye ointment	½ inch to lid margins and into lower conjunctival sac	topical	qhs	7-14 days

Client and Caregiver Education

The RN(AAP) provides client and caregiver education as follows:

- Counsel about appropriate use of medications (dose, frequency, application, compliance, etc.).
- Instruct in proper hygiene of eyelids.
- Recommend daily eyelid hygiene.
- Recommend avoidance of rubbing or irritating the eyelids.
- Recommend avoidance of cosmetics, wind, smoke, and other irritants.
- Recommend avoidance of contact lens use.
- Recommend not to share make-up (Anti-infective Review Panel, 2019; Dynamed, 2018; Reinoso et al., 2019; Rousta, 2017).

Monitoring and Follow-Up

The RN(AAP) should advise the client they should be seen in follow-up in 10-14 days to ensure resolution of symptoms.

Complications

The following complications may be associated with blepharitis:

- secondary bacterial infection, common in seborrheic form;
- recurrence and/or development of chronic blepharitis;
- development of hordeolum (stye) and/or chalazion; and/or
- development of dry eyes (Reinoso et al., 2019; Rousta, 2017).

Referral

Refer to a physician/NP if the client presentation is consistent with the *Immediate Consultation Requirements* section, the diagnosis is uncertain, and/or poor response to treatment (Anti-infective Review Panel, 2019; IPAG, personal communication August 28, 2019; Reinoso et al., 2019).

References

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