SASKATCHEWAN REGISTERED NURSES' ASSOCIATION

RNs WITH ADDITIONAL AUTHORIZED PRACTICE
CLINICAL DECISION TOOL
DECEMBER 1, 2016

BLEPHARITIS ADULT & PEDIATRIC

DEFINITION

Blepharitis is an inflammation of the eyelid margins with redness, thickening, and the formation of scales and crust or shallow marginal ulcers. Blepharitis can be divided anatomically into anterior blepharitis (involving eyelashes and follicles) and posterior blepharitis (involving dysfunction of the meibomian glands).
It can be a chronic problem as well as acute.

IMMEDIATE CONSULTATION REQUIRED IN THE FOLLOWING SITUATIONS

- Altered eyelash appearance
- Decrease in vision
- Corneal involvement
- Severe pain
- Photophobia
- Contact lens wearers are susceptible to more serious ulcers and infection
- Redness over limbus area
- Small or hypo-reactive pupils
- Red eye and foreign body sensation is also present with other serious eye diseases
- Spread of infection beyond the eyelid margins

Types
Historic classification by location:

- Anterior form - affects anterior lid margin and eyelashes leads to hordeolum
- Posterior form - affects meibomian glands leads to chalazion

Etiologic classification:

- Inflammatory:
  - Seborrheic
  - Meibomian gland dysfunction
  - Allergic (atopic and contact dermatitis)
  - Associated with dermatosis (rosacea)

Infectious:

- Bacterial typically:
  - *Staphylococcus aureus (S. aureus)*
  - *Staphylococcus epidermidis (S. epidermidis)*
  - *Propionibacterium acnes (P. acnes)*

Viral:

- *Molluscum contagiosum*
- Herpes simplex
- Varicella-zoster
- Common warts

Fungal:

- Uncommon, usually in immunosuppressed clients
- Pityrosporum

Parasitic:

- *Demodex folliculorum*
- *Pediculosis pubis*

CAUSES

Most common organisms causing chronic disease:

- *S. epidermidis*
- *P. acnes*
- Corynebacteria
- *S. aureus*

Blepharitis is one of the most common ocular diseases:

- Occurs mostly in adults
- Occurs equally in men and women
- Is more common in fair-skinned people
- No known genetic predisposition
- No known geographic predisposition
- No known socioeconomic predisposition

Types

Anterior:

- Seborrhea or bacterial infection (with *S. aureus*)

Posterior:

- Secondary to dysfunction of the meibomian glands causing buildup of keratin plugging the glands

Other important causes include acne rosacea, herpes simplex virus, dermatitis, lice on eye lashes, dry eye syndrome, varicella-zoster dermatitis, and allergic/contact dermatitis.

Eyelid extensions can cause allergic blepharitis from glues and eyelid-fixing tapes.

PREDISPOSING AND RISK FACTORS

- Seborrheic dermatitis
- Acne rosacea
- Pterygium
- Contact allergies
- Chemical irritants
- Ambient levels of air pollution
- Poor hygiene
- Cosmetic make-up
- Diabetes
- Ulcerative colitis
- Irritable bowel syndrome
- Gastritis
- Immunocompromised states (AIDS, chemotherapy)
- Anxiety

HISTORY

Concerns may include:

- Sore eyelids
- Irritated
- Burning
- Gritty
- Itching
- Red eyes
- Dry or watery eyes
- Increased blinking
- Foreign body sensation
- Photophobia

- Contact lens intolerance
- Eyelids sticking together (especially in morning with flaking and crusting)
- Redness of lid margin
- History of seborrhea (of the scalp, brows or ears)
- Loss of lashes
- Worsening in the morning
- Mattering of lashes with medial canthus erythema
- Blurred vision
- May be asymptomatic

PHYSICAL FINDINGS

The physical exam includes an examination of the skin and eye.
Includes the following:

- Tear film
- Anterior eyelid margin
- Eyelashes
- Posterior eyelid margin
- Tarsal conjunctiva (everting eyelids)
- Bulbar conjunctiva
- Cornea
- Visual acuity

Typical findings:

- Typically bilateral disease
- Associated dandruff (scalp and eyebrows)

Signs may include:

- Swollen eyelids
- Inflamed lid margins (with redness and thickening)
- Scaling
- Crusting
- Irregularity (tylosis) of lid margins
- Ulceration of lid margins
- Hordeolum (stye)

- Chalazia (cysts)
- Altered eyelash appearance:
  - Loss (madarosis)
  - Individual lash poliosis
  - Broken lashes
  - Misdirected lashes
  - Crusted with fibrinous or sebaceous matter (collarettes, scurf, sleeves)
  - Secondary alterations to conjunctiva (e.g., conjunctivitis)
  - Secondary alterations to cornea (e.g., corneal inflammation or ulceration)

Meibomian gland dysfunction characterization:

- Inflammatory changes at lid margins
- Changes in anatomy of orifices and character of secretions (distinguishing it from more anterior inflammation)
- Changes can be:
  - Primary
  - Secondary
    - Seen with cutaneous and dermatological disease involving sebaceous glands (e.g., seborrhea)
    - Up to 50% of cases associated with rosacea
    - Hypersecretion possible with large amounts of lid oil released at lid margin
    - Increased tear evaporation
    - Mild conjunctival injection and superficial punctate keratitis in lower 1/3 of eye
      - Focal
      - Diffuse
- Bacterial Form:
  - Dry scales
  - Lid margin red
  - Ulceration may be present
  - Lashes tend to fall out
- Seborrheic Form:
  - Greasy scales
  - Lid margins less red

  - No ulceration
- Mixed Form:
  - Dry and greasy scales
  - Lid margins red
  - Ulceration may be present
- Skin:
  - Look for seborrheic dermatitis or rosacea, eczema

DIFFERENTIAL DIAGNOSIS

- Acne rosacea
- Seborrheic dermatitis
- Acne vulgaris
- Atopic dermatitis
- Carcinoma
- Herpes simplex
- Conjunctivitis
- Hordeolum (stye)
- Dry eye syndrome
- Chalazion
- Allergic blepharitis
- Other eye lid inflammatory conditions

COMPLICATIONS

- Secondary bacterial infection common in seborrheic form
- Recurrence, possibly chronic
- Hordeolum (stye)
- Chalazion
- Dry eyes

INVESTIGATIONS AND DIAGNOSTIC TESTS

- Swab exudate for culture and sensitivity (only if there is no response to empiric treatment).
- No confirmatory diagnostic test available.

MAKING THE DIAGNOSIS

Clinical diagnosis
Examination of the eye and adnexa:

- Visual acuity
- External eye examination
- Slit-lamp exam if available
- Measurement of intraocular pressure if the equipment is available

Some of the clinical findings in blepharitis are as follows:

- Swollen eyelids
- Inflamed lid margins (with redness and thickening)
- Scaling
- Crusting
- Irregularity (tylosis) of lid margins
- Ulceration of lid margins
- Altered eye lashes appearance

Associated seborrhea has a better predictability for blepharitis.

MANAGEMENT AND INTERVENTIONS

Goals of Treatment

- Keep lid margin clean and free of scaly build up
- Prevent infection

Appropriate Consultation

- Consult a physician/RN(NP) if the inflammation or infection is extensive; including more than the lid margin as in orbital cellulitis.
- Treat for several weeks until the blepharitis is completely gone to reduce chance of recurrence.
- Consult a physician/RN(NP) for posterior blepharitis.

Non-Pharmacological Interventions

Lid hygiene to be performed bid. First, apply warm compresses for 5 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 oz.] water and 3 drops of shampoo). Rinse with clear water and then remove lid debris with a dry, cotton-tipped applicator.

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.

Pharmacological Interventions

- For Anterior Staphylococcus Blepharitis:
  - Apply a topical antibiotic eye ointment to the lid margins and into the lower conjunctival sac:
    - Erythromycin 0.5% eye ointment 1-4/day for 1-2 weeks, then qhs for 4-8 weeks
    - Identify and manage underlying seborrhea (scalp, eyebrows or other skin areas)
- For Posterior Blepharitis, consult with a physician/RN(NP).
  - The following medications are usually used for treating posterior blepharitis in adults:
    - Oral antibiotics can be prescribed for posterior blepharitis or for:
      - rare cases of staphylococcal blepharitis that do not respond to topical therapy.
      - secondary infections of meibomian glands.
      - meibomian gland dysfunction unresponsive to eyelid hygiene.
      - clients with ocular rosacea.
      - May include:
        - Tetracycline 250 mg orally q6h, tapering after 3-4 weeks to q12h and then once daily. Length of treatment depends on severity of disease. Regimen may have to be intermittently stopped due to medication intolerance.
        - Doxycycline 100 mg orally q12h for 3-4 weeks, tapering to 100 mg once daily for several months or 20 mg daily for long-term treatment.

Client and Caregiver Education

- Counsel client/caregiver about appropriate use of medications (dose, frequency, application, compliance, etc.).
- Instruct client in proper hygiene of eyelids.
- Recommend that client avoid rubbing or irritating eyelids.
- Recommend avoidance of cosmetics, wind, smoke and other irritants.
- If chronic blepharitis is present, daily eyelid hygiene is recommended.
- Avoid contact lens use.

Prevention/Health Promotion

- Early diagnosis and appropriate treatment and management may reduce signs and symptoms of blepharitis and prevent permanent structural damage or visual loss. In cases of carcinoma masquerading as blepharitis, early diagnosis and appropriate treatment may be lifesaving.
- Do not share eye make-up.

Monitoring and Follow-Up

- Follow-up in 10-14 days.

Referral

Refer clients who have:

- Visual loss
- Systemic symptoms including fever
- Moderate or severe pain
- Severe or chronic redness
- Corneal involvement
- Recurrent episodes
- Not responded to therapy
- Marked eyelid asymmetry

DOCUMENTATION

- As per employer policy

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