College of Registered Nurses of Saskatchewan

Aphthous Stomatitis: 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

Aphthous stomatitis or canker sores are described as ulcers and inflammation of the tissues of the mouth, including the lips, buccal mucosa, tongue, gingiva, and posterior pharyngeal wall. Aphthous ulcers consist of one or more round-ovoid, shallow, punched out appearing ulcers that recur at intervals of a few days to a few months (Dynamed, 2018). These lesions are among the most common oral mucosal lesions observed and are typically caused by herpes simplex virus, coxsackievirus, and candida although causes in some situations remain unknown (Reinoso, Dunphy, & Porter, 2019).

Immediate Consultation Requirements

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

- pediatric clients less than one year of age with moderate to severe disease impacting oral intake/hydration;
- major lesions, > 10 millimetres that are persistent, painful, and interfere with nutrition; and/or
- where there is diagnostic uncertainty (Interprofessional Advisory Group [IPAG], personal communication, August 28, 2019).

Predisposing and Risk Factors

Predisposing and risk factors for aphthous stomatitis include:

- immunocompromised states,
- stress,
- hormonal fluctuations,
- inflammatory bowel disease (e.g., Crohn's), or
- antimetabolite chemotherapy (Reinoso et al., 2019).

Health History and Physical Exam

Subjective Findings

The circumstances of the presenting complaint should be determined. These include:

- onset and duration of symptoms,
- age of the client at onset,
- previous history of the presenting complaint and treatments tried,
- cutaneous or mucosal changes,
- fever,
- burning or tingling before ulceration,
- pain,
- drooling,
- difficulty swallowing,
- weight loss and/or evidence of nutritional deficiencies,
- associated respiratory or gastrointestinal symptoms,
- associated skin rash,
- recent mouth trauma,
- infections including risk factors for sexually transmitted infections,
- systemic diseases,
- recent dental treatment,
- smoking, and/or
- alcohol use (Reinoso et al., 2019).

Objective Findings

The signs and symptoms of aphthous stomatitis may include:

- ulcerative lesions with exudate on the buccal mucosa, posterior pharynx, tonsils, posterior palate, lateral tongue and/or lips;
- pain may be present, but client is usually afebrile (Reinoso et al., 2019).

The following table provides features of common forms of stomatitis based on causative organisms, if known:

Type	Herpangina or Hand-Foot-Mouth Disease	Herpes Stomatitis	Candidiasis (Thrush)	Unknown Cause
Cause	*Coxsackievirus, echovirus*, or *enterovirus 71*	*Herpes simplex virus*	Fungal infection	Unknown

Type	Herpangina or Hand-Foot-Mouth Disease	Herpes Stomatitis	Candidiasis (Thrush)	Unknown Cause
Type of Lesion	Vesicles with ulcers on erythematous base.	Vesicles and shallow ulcers (round or oval) which may be confluent.	Pseudomembranous: adherent white plaques that may be wiped off; or Erythematous: red macular lesions, often with a burning sensation.	Shallow, greyish, nonvesicular ulcers. Typically surrounded by a ring of hyperemia and covered with a fibrinous yellow membrane.
Site	Anterior pillars, posterior palate, pharynx, and buccal mucosa.	Gingiva, buccal mucosa, tongue, and/or lip.	Tongue and/or buccal mucosa. Occasionally spreads to palate, gums, tonsils, posterior pharynx, and esophagus.	Buccal mucosa and/or lateral tongue.
Diameter	1-3 mm	> 5 mm	Varies	Minor: < 10 mm Major: > 10 mm
Other Features	Dysphagia, vesicles on palms of hands and soles of feet and in the mouth.	24 to 48-hour prodrome of burning sensation in the mouth. Drooling, coalescence of lesions. Duration: about 10 days.	Some clients may present with angular cheilitis: erythematous, scaling fissures at the corners of the mouth.	Pain, no fever. Usually only one or two lesions.

(Reinoso et al., 2019)

Differential Diagnosis

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

- cancers of the oral mucosa (suspect if lesions present more than three to six weeks and are unresponsive to treatment),
- contact dermatitis (allergic or irritant),

- dermatologic manifestations of gastrointestinal disease (e.g., celiac, Crohn's, colitis),
- primary HIV/AIDS infection,
- syphilis,
- Vincent's stomatitis,
- denture stomatitis (red palate under denture),
- pemphigus,
- lichen planus, or
- reactive arthritis (Reinoso et al., 2019).

Making the Diagnosis

The diagnosis is based on history and physical findings.

Investigations and Diagnostic Tests

Investigations and diagnostic tests are typically not required. If nutritional deficiencies are suspected, a complete blood count (CBC), vitamin B6 and B12, folate, and ferritin should be ordered (Reinoso et al., 2019).

Management and Interventions

There are no specific treatments for any of these conditions except for herpes stomatitis which may be treated with an antiviral. Without treatment, herpes stomatitis usually lasts 10 days. Herpangina lasts for only a few days and has few complications.

Aphthous stomatitis requires no treatment other than symptom management.

Goals of Treatment

The primary goals of immediate treatment are to relieve symptoms and prevent complications (Reinoso et al., 2019).

Non-Pharmacological Interventions

The RN(AAP) should recommend, as appropriate, the following non-pharmacological options including baking soda, salt water, or full-strength hydrogen peroxide rinses three or more times per day (Reinoso et al., 2019; Watson, 2021).

Pharmacological Interventions

The pharmacological interventions recommended for the treatment of aphthous stomatitis are in accordance with *Aphthous Stomatitis* (Dynamed, 2018), *Analgesia for Acute Gingivostomatitis: A National Survey of Pediatric Emergency Physicians* (MacLellan, Ali, Curtis, Baserman, & Dixon, 2017), *Inflammatory and Infectious Disorders of the Nose, Sinuses, Mouth, and Throat* (Reinoso et al., 2019), *CPS Drug Information* (Canadian Pharmacists Association, 2021), and the *RxFiles: Drug Comparison Charts* (R Files Academic Detailing Program, 2021).

Analgesics and Antipyretics

	Drug	Dose	Route	Frequency	Duration
Pediatric					
	Acetaminophen	10-15 mg/kg/dose (maximum daily dose of 75 mg/kg/day)	p.o.	q4-6h prn	5-7 days
AND/ OR	Ibuprofen	5-10 mg/kg/dose (maximum daily dose of 40 mg/kg/day)	p.o.	q6-8h prn	5-7 days
Adult					
	Acetaminophen	500-1000 mg/dose (maximum daily dose of 4 g/day)	p.o.	q4-6h prn	5-7 days
AND/ OR	Ibuprofen	400-600 mg/dose (maximum daily dose of 3200 mg/day)	p.o.	q6-8h prn	5-7 days

Topical Anesthetic

	Drug	Dose	Route	Frequency	Duration
Pediatric and Adult					
	Benzocaine preparation (e.g., Anbesol)	Small amount of gel, ointment, or paste to the affected area using a Q-tip.	topical	b.i.d. to q.i.d.	7 days

Topical Steroid

	Drug	Dose	Route	Frequency	Duration
Pediatric and Adult					
	Triamcinolone acetonide 0.1% (e.g., Oracort dental)	Small amount of gel, ointment, or paste to the affected area using a Q-tip.	topical	b.i.d. to q.i.d.	7 days

Treatment for Oral Candidiasis

	Drug	Dose	Route	Frequency	Duration
Pediatric (≤ 1 year of age)					
	Nystatin oral suspension (100,000 units/mL)	1-2 mL applied post-feed with a swab.	topical/p.o.	q.i.d.	7 days
Pediatric (> 1 year of age) and Adult					
	Nystatin oral suspension (100,000 units/mL)	5 mL, swish and swallow.	topical/p.o.	q.i.d.	7 days

Client and Caregiver Education

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

- Counsel about the expected duration of this illness, and signs and symptoms of dehydration. Pediatric clients are at risk of dehydration and caregivers should be instructed to monitor intake and output.
- Counsel about the appropriate use of medications (dose, frequency, compliance, etc.).
- To maximize effectiveness of topical medications, remind them to dry the affected mucosa prior to drug application and avoid eating, drinking, and speaking for 30 minutes after each application.
- Recommend dietary adjustments including ingestion of bland non-acidic fluids (e.g., milk and water), popsicles, ice cream, and similar food items.
- Advise avoidance of acidic foods or beverages (e.g., citrus), salty foods (e.g., potato chips, pickles), hot spices, alcoholic and carbonated beverages to prevent pain from unnecessary ulcer irritation.

- To prevent spread of infection, recommend avoidance of direct contact with infected individuals (e.g., kissing, sharing glasses and utensils, hand contact).
- Educate clients that the herpes virus can spread even when sores are not present.
- Mothers of breastfed clients diagnosed with candidiasis require concurrent treatment. Consider topical nystatin, clotrimazole or miconazole to nipples after each feeding.
- An elimination diet may help control outbreaks by revealing suspected allergic stimuli that initiate oral lesions. A food diary may be helpful.
- Strict adherence to a gluten-free diet for clients with celiac disease may help control outbreaks.
- Clients with ulcers should avoid hard or sharp foods that may gouge existing ulcers or create new ones.
- Encourage clients to maintain oral hygiene and to use a soft toothbrush (Reinoso et al., 2019).

Monitoring and Follow-Up

The RN(AAP) should arrange for the client to return in seven days for evaluation of therapeutic response.

Complications

The following complications may be associated with aphthous stomatitis:

- dehydration,
- secondary infection (e.g., gangrenous stomatitis), or
- Ludwig's angina (Reinoso et al., 2019).

Referral

Refer to a physician/NP if client presentation is consistent with those identified in the *Immediate Consultation Requirements* section or if lesions do not resolve within a week (IPAG, personal communication, August 28, 2019).

References

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