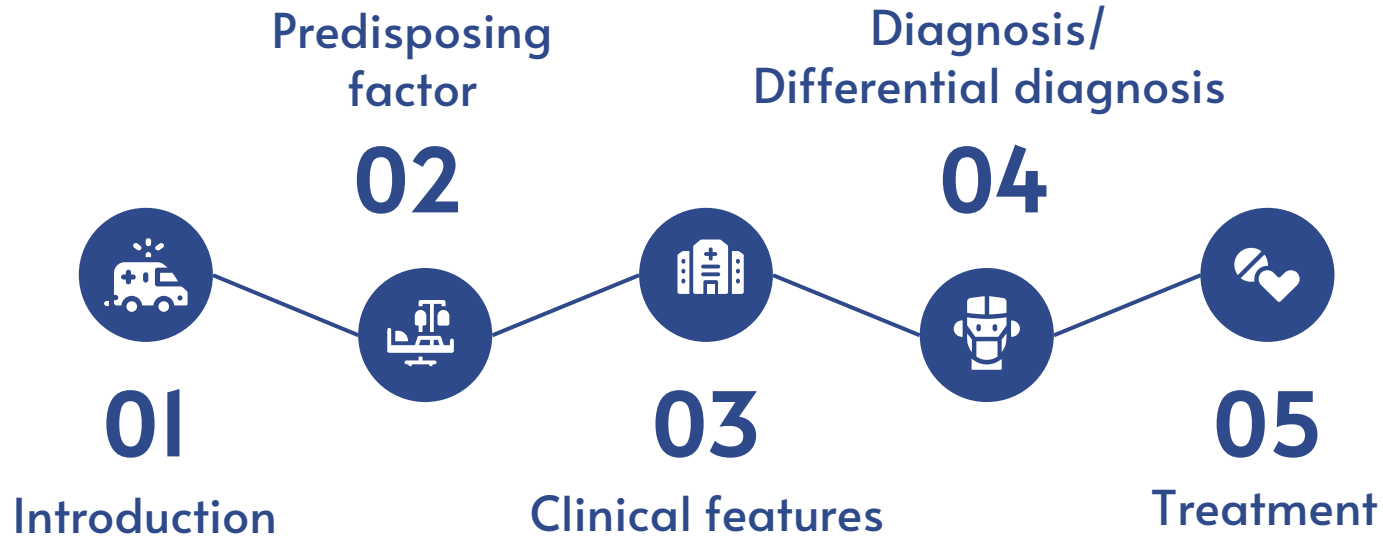


RECURRENT APHTHOUS STOMATITIS (RAS)



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Introduction



https://en.wikipedia.org/wiki/File:Aphthe_Unterlippe.jpg



<https://standardofcare.com/wp-content/uploads/artimgs/2057.jpg>



<https://jcda.ca/article/d48>



Recurrent aphthous stomatitis (RAS)

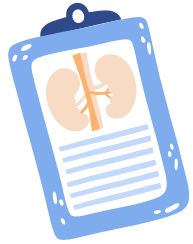
- Auto-inflammatory condition caused by dysregulation of innate immunity
- Affect up to 25% of the general population
- More common in female
- Prevalence: Higher in professional & upper socioeconomic group



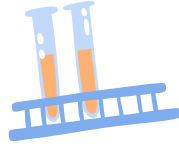
Predisposing factor

	Predisposing factors	Notes
1	Local mucosal injuries	Due to local anesthetic injection, sharp tooth, dental treatment, tooth brush injury
2	Genetic factors	A family history is found in up to 40% of patients
3	Foods	Chocolate, coffee, peanuts, cereals, almonds, strawberries, cheese, tomatoes
4	Stress	Stress induces immunoregulatory activity by increasing the number of leucocytes at sites of inflammation
5	Pharmacological treatments	Several classes of medications including ABOs, chemotherapy drugs, antiepileptics, diuretics, anti-inflammatories, and antiretrovirals
6	Immune disorders	Oral manifestations are frequently the first sign of an autoimmune disease
7	Endocrine disturbances	Celiac disease, DM, autoimmune thyroid disease





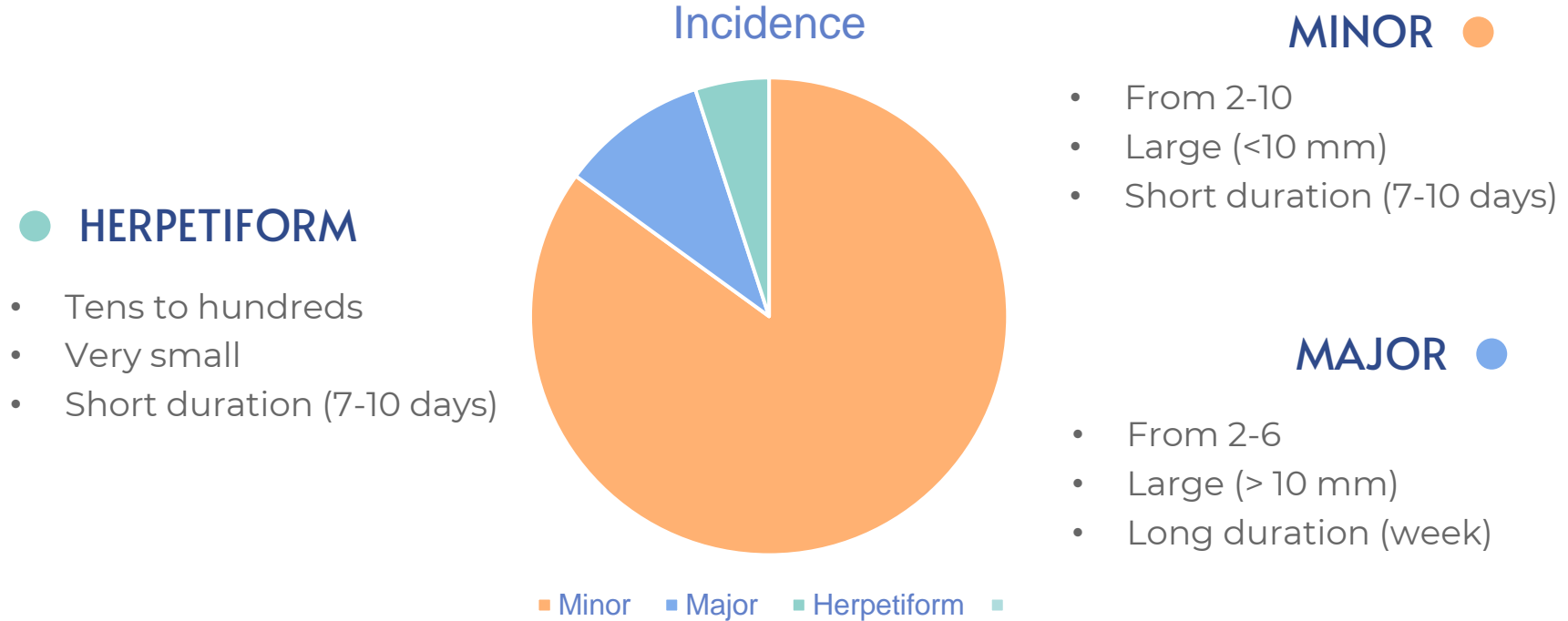
03. CLINICAL FRETURES



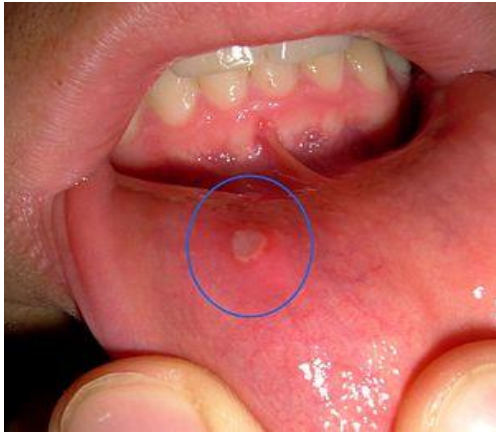
Clinical features

- Painful recurrent ulcers
- Prodromal symptoms (Occasionally): tingling or burning
- Site: vestibular, BM, tongue, soft palate, floor of mouth
- 3 forms: minor, major, herpetiform

Recurrent aphthous stomatitis (RAS)

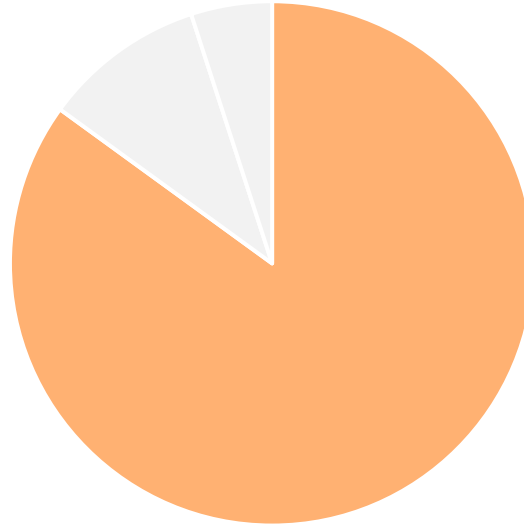


Recurrent aphthous stomatitis (RAS)



https://en.wikipedia.org/wiki/File:Aphthe_Unterlippe.jpg

Incidence



■ Minor ■ Major ■ Herpetiform ■

MINOR ●

- From 2-10
- Large (<10 mm)
- Short duration (7-10 days)



<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4441245/>

Tangcharoen C, 2022

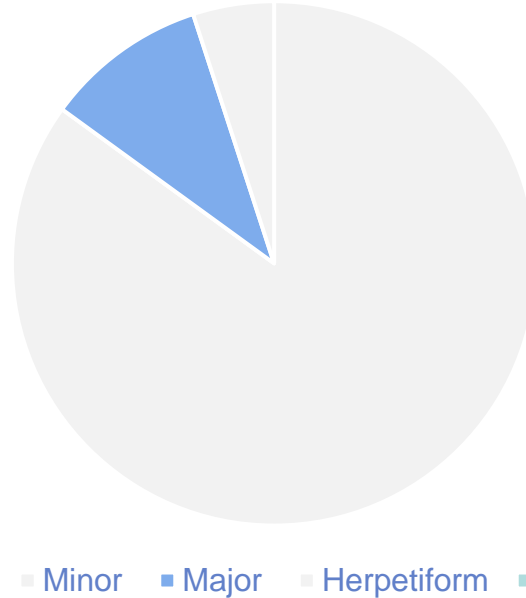
Tarakji B, 2015

Recurrent aphthous stomatitis (RAS)



<https://jcda.ca/article/d48>

Incidence



<https://standardofcare.com/wp-content/uploads/artimgs/2057.jpg>

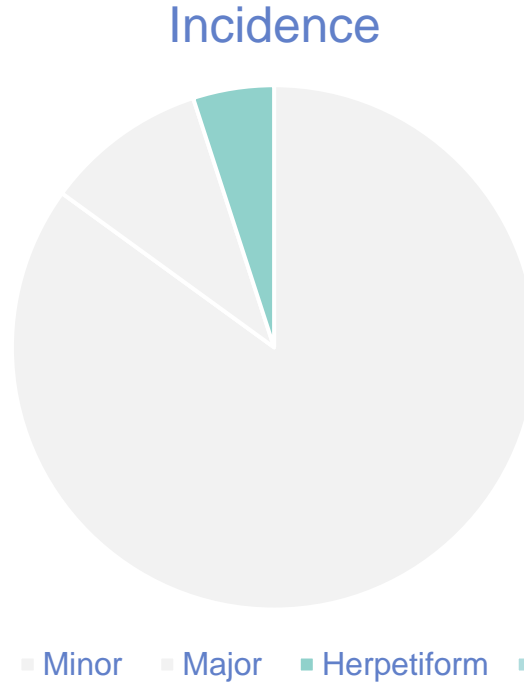
MAJOR ●

- From 2-6
- Large (> 10 mm)
- Long duration (week)

Recurrent aphthous stomatitis (RAS)

● HERPETIFORM

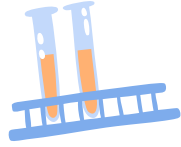
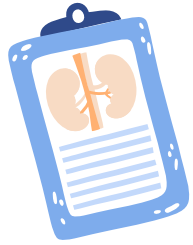
- Tens to hundreds
- Very small
- Short duration (7-10 days)



<https://jcda.ca/article/d48>



https://www.researchgate.net/figure/Recurrent-herpetiform-ulcers-Fig-2-Recurrent-aphthous-major_fig1_274680323 Tangcharoen C, 2022
Tarakji B, 2015



04. DIAGNOSIS



Diagnosis

- History taking
 - Past medical history
 - Family health history
 - Medication
 - Allergy
- Oral examination
- History taking about lesion
 - Site
 - Duration
 - Frequency
 - Severity

Lab Studies

- CBC
- Iron studies, ferritin, transferrin
- Serum vitamin B-12 measurements
- Red cell folate measurements

Other investigations may help exclude systemic disorders



Histopathology

- No microscopic diagnostic features
- **Biopsy: Unnecessary**

Differential Diagnosis

- Recurrent HSV infection
- Varicella Zoster virus infection (VZV)
- Oral viral infections: Herpangina and Hand-foot-mouth
- Erythema multiforme
- Lichen planus
- Vesiculobullous oral lesions: Pemphigus, Pemphigoid
- Oral expression of systemic disease: Crohn's disease, Neutropenia, Celiac disease

Differential Diagnosis

- Recurrent HSV infection
 - Prodromal symptoms: Fever
 - History of vesicle
 - Keratinized mucosa: Hard palate, gingiva



<https://www.intechopen.com/chapters/46273>

Differential Diagnosis

- Varicella Zoster virus infection (VZV)
 - Unilateral extraoral-intraoral distribution following trigeminal nerve
 - Prodromal symptoms: pain and burning



<https://casereports.bmj.com/content/11/1/e228383>



<https://www.sciencedirect.com/science/article/abs/pii/S0099239917302911>

Differential Diagnosis

- Herpangina
 - Clinical features: sore throat, dysphagia and fever
 - **Oral lesion (rare):** posterior area of mouth -> soft palate, tonsillar pillar



<https://www.medicalnewstoday.com/articles/318506>

- Hand-foot-mouth
 - Short prodrome: fever, anorexia
 - Oral lesion: small red macules
 - Other lesion: hands and feet



<https://slmicrobiology.lk/2022/10/31/hand-foot-and-mouth-disease/>

Differential Diagnosis

- Erythema multiforme
 - Site: attached and movable mucosa
 - Oral lesion: Crusting
 - Skin lesion: target lesion or bull's - eye



<https://bjgp.org/content/66/644/e222>



<https://www2.hse.ie/conditions/erythema-multiforme/>

Differential Diagnosis

- Lichen planus
 - Primary occur on buccal mucosa
 - Secondary site on gingiva and hard palate
 - Not always painful



https://www.baoms.org.uk/patients/conditions/1/lichen_planus

Differential Diagnosis

- Vesiculobullous oral lesions: Pemphigus, Pemphigoid

Mucous membrane pemphigoid

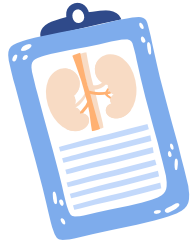


Pemphigus vulgaris



Paraneoplastic pemphigus





05. TREATMENT



Treatment



- Aim of treatment: **Lessen pain and duration of lesion**
- Exclude systemic disease and treat predisposing factors
- Treatment depend on
 - Severity of pain
 - Patient's medical history
 - Frequency of flare-ups
 - Patient's ability to tolerate the medication

Treatment



- Common treatment of aphthous ulcer
 - Antibiotics
 - Anti-inflammatory
 - Immune modulatory
 - Symptomatic Relief
- Treatment should always start with topical medication

Treatment – Topical medication



Antiseptics and anti-inflammatory drugs/analgesics

- 0.2% chlorhexidine in rinses or gel, three times a day (without swallowing)
- Benzidamine hydrochloride (oral rinse): relief pain



<https://www.hexasupplies.com/en/product/27886/chlorhexidine-antiseptic-mouth-wash-c-20>



<https://www.easymedshealth.com/products/diffiam-oral-rinse-300ml>

Treatment — Topical medication



Topical Antibiotic

- Tetracyclines and their derivatives (doxycycline and minocycline), in gel or rinse
 - 100 mg in 10 ml of water, rinses for 2-3 minutes (without swallowing),
4 times a day for three days

Treatment — Topical medication



Topical corticosteroid — **most widely used**

- 0.05-0.5% Triamcinolone acetonide, applied 3-10 times a day
 - Intermediate
 - small and mild erosive lesions, non severe case
- 0.025-0.05%, fluocinolone acetonide, applied 5-10 times a day
 - Potent
 - more aggressive lesions
- 0.025-0.05% clobetasol propionate
 - Ultrapotent
 - alternative prior to the prescription of systemic therapy

Treatment – Topical medication



https://www.tudsinjai.com/data/product/trinolone_oral_paste/



<https://www.webmd.com/drugs/2/drug-75280/triamcinolone-acetonide-dental/details>



<https://www.goodrx.com/fluocinonide/what-is>



<https://www.indiamart.com/proddetail/clobetasol-propionate-ointment-20058965273.html>

Treatment — Topical medication



Symptomatic Relief

- 0.2% hyaluronic acid in gel, applied twice a day during two weeks
- 2% lidocaine (as a spray or gel)

Treatment — Systemic medication (For severe case)



Systemic steroid

- Prednisone tablets 5 mg
 - Sig: 5 tablets in the morning until lesions recede, then decrease by 1 tablet on each successive day

Immunosuppressants

- Azathioprine (Imuran) tablets 50 mg 30 tablets
 - Sig: 1 tab bid (should not be take during pregnancy)

Treatment — Supplement



- **Iron**
 - Ferrous sulphate 200 mg bid.
 - Ferrous gluconate 300 mg/day
- **Vit B12**
 - Hydroxocobalamin 1000 microgram IM q 2-3 mt
- **Folate**
 - Folic acid 5-10 mg/day

Treatment



- **General recommendations**
 - Avoid
 - Acidic and salty food
 - Alcohol
 - Carbonated drink
 - Good oral hygiene

Sum up RAS

Character	Type of RAS		
	Minor	Major	Herpetiform
Peak age of onset (decade)	Second	First and second	Third
Number of ulcers	1-5	1-3	5-20 (up to 100)
Size of ulcers (mm)	<10	>10	1-2
Duration	7-14 days	2 weeks-3 months	7-14 days
Heal with scarring	No	Yes	No
Site	Non-keratinized mucosa especially labial/buccal mucosa. Dorsum and lateral borders of the tongue	Keratinized and non-keratinized mucosa, particularly soft palate	Non-keratinized mucosa but particularly floor of the mouth and ventral surface of the tongue

RAS: Recurrent aphthous stomatitis

- Aim of treatment: **Lessen pain and duration of lesion**
- Exclude systemic disease and treat predisposing factors

Treatment – Topical medication



Table 1. Local pharmacological treatments.

LOCAL PHARMACOLOGICAL TREATMENTS
<i>1. Antiseptics, anti-inflammatory and analgesics</i> (chlorhexidine mouthwash or gel 3 0.2% v / d; triclosan gel 3 v / d; topical diclofenac 3%; ointment amlexanox 5% 2-4 v / d).
<i>2. Antibiotics</i> (doxycycline gel at low doses).
<i>3. Topical corticosteroids</i> (triamcinolone acetonide 0.05-0.5% 3-10 v / d, fluocinolone acetonide 0.025 to 0.05% 5.10 v / d; Clobetasol Propionate 0.025%).
<i>4. Hyaluronic acid</i> (0.2% gel 2 v / d two weeks).
<i>5. Topical anesthetics</i> (topical lidocaine 2% spray or gel).
<i>6. Other: Laser, natural substances ...</i> (Nd: YAG, myrtle, quercetin, rosa damascena).

(v/d= times a day)

Treatment — Systemic medication



Table 2. Systemic pharmacological treatments.

SYSTEMIC PHARMACOLOGICAL TREATMENTS
1. <i>Antibiotics</i> (penicillin G potassium, 50 mg pills 4 v / d 4 days).
2. <i>Corticosteroids</i> (initial dose of oral prednisone 25 mg / day and stepwise dose reduction for 2 months).
3. <i>Colchicine</i> (0.5 mg / day 7 days, 1 mg / day 7 days and a maintenance dose of 1.5 mg / day).
4. <i>Dapsone</i> (25 mg / day 3 days, 50 mg / day 3 days, 75 mg / day 3 days and a maintenance dose of 100 mg / day).
5. <i>Clofazimine</i> (100 mg daily for 6 months).
6. <i>Pentoxifylline</i> (400 mg 3 v / d for one month).
7. <i>Zinc sulphate</i> (150 mg / d).
8. <i>Immunomodulating</i> : thalidomide (50-100 mg per day), levamisole (150 mg three times a week during 6 months).
9. <i>Homeopathic substances</i> (mercurius solubilis, Natrum muriaticum, phosphorus, sulfuric acid, nitric acid ... 100 ml of water orally every 12 hours for 6 days).

(v/d= times a day)



THANK YOU

for your attention

Reference

- Tangcharoen C, Sangsuttiwongsa K, Thammajaksila N, Damrongrungruang T. Recurrent Oral Aphthous Ulcer: Case Report . Khon Kaen Dent J [Internet]. 2022 Jul. 11 [cited 2023 Jun. 24];25(2):102-1. Available from: <https://he01.tci-thaijo.org/index.php/KDJ/article/view/247803>
- Tarakji B, Gazal G, Al-Maweri SA, Azzeghaiby SN, Alaizari N. Guideline for the diagnosis and treatment of recurrent aphthous stomatitis for dental practitioners. J Int Oral Health. 2015;7(5):74-80.

