



Gastrointestinal Pathology

Oral Cavity

I. Cleft Lip and Palate

Definition

- Full-thickness defect of lip and/or palate
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Pathogenesis (Flowchart)

Failure of fusion of facial prominences → Incomplete formation of lip and/or palate → Persistent gap (cleft) in structure → Cleft lip ± cleft palate

Concept Insight

During early embryonic development, 5 facial prominences must fuse properly:

- 1 frontonasal (superior)
- 2 maxillary (lateral)
- 2 mandibular (inferior)

 Failure of fusion = structural defect

Key Points

Feature	Detail
Common pattern	Cleft lip + palate together
Less common	Isolated cleft lip or palate

Timing	Early pregnancy (critical period ⚠️)
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🎯 Exam Focus

- Association: syndromes
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II. 😞 Aphthous Ulcer

📌 Definition

- Painful, superficial ulcer of oral mucosa
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🔍 Clinical Features

- Grayish base
- Surrounding erythema ●

- Recurrent episodes
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Pathogenesis (Simplified Flow)

Stress / unknown trigger → Local mucosal immune reaction → Superficial epithelial damage → Painful ulcer formation

Concept Insight

- Not infectious
 - Likely immune-mediated
 - Heals spontaneously but recurs
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Exam Focus

- Classic description:

👉 "Painful ulcer with gray base and red halo"


III. 🔥 Behçet Syndrome

📌 Definition

- Systemic disorder with recurrent ulcers + eye involvement
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📊 Classic Triad

Feature	Description
Oral ulcers	Aphthous-like, recurrent
Genital ulcers	Painful

Uveitis	Eye inflammation 
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Pathogenesis (Flowchart)

Trigger (possibly viral) → Immune complex formation →
Deposition in small vessels → Vasculitis (small vessel
inflammation) → Tissue damage → Ulcers + systemic
features

Concept Insight

- Type III hypersensitivity reaction (immune complex-mediated)
 - Etiology unknown, but immune dysregulation is key
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Exam Focus

- Triad = highly tested
 - Keywords: *"vasculitis + oral/genital ulcers + uveitis"*
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IV. Oral Herpes (HSV-1)

Definition

- Viral infection causing vesicles → ulcers
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Pathogenesis (Flowchart)

Primary HSV-1 infection (childhood) → Virus infects oral epithelium → Vesicle formation → Vesicle rupture → Painful shallow ulcers

Then:

Virus travels via sensory nerves → Latency in trigeminal ganglion → Reactivation (stress/sunlight ☀️) → Recurrent lesions (cold sores)

Clinical Features

- Painful vesicles → rupture → ulcers
 - Commonly on lips (cold sores)
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Concept Insight

- "Reactivation" is important
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Exam Focus

- HSV-1 = oral

- HSV-2 = genital
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V. ⚠ Squamous Cell Carcinoma (Oral)

Definition

- Malignant tumor of oral squamous epithelium
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Risk Factors

Major Risk	Notes
Tobacco 🚬	Strongest association
Alcohol 🍺	Synergistic effect

Common Site


- Floor of mouth
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Precursor Lesions

1. Leukoplakia

- White plaque cannot be scraped off
 - May represent dysplasia
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2. Erythroplakia




- Red plaque (vascular)
 - Vascularized leukoplakia
 - Higher risk of malignancy 
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Progression Flowchart

Chronic irritation (tobacco/alcohol) → Epithelial dysplasia
→ Leukoplakia / erythroplakia → Accumulation of
mutations → Squamous cell carcinoma

Important Differentiation Table


Feature	Leukoplakia	Oral Candidiasis	Hairy Leukoplakia
Appearance	White plaque	White deposit	White "hairy" patch
Scrapable?	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Cause	Dysplasia	Fungal (Candida)	Epstein-Barr virus - SQC hyperplasia
Immunocompromised?	Not necessary	Common	Very common

Pre-malignant?	 Yes	 No	 No
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Concept Insight

- Scrapable vs non-scrapable is a classic exam trick
 - Hairy leukoplakia = NOT pre-malignant
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Exam Focus

- Most tested points:
 - Floor of mouth = common site
 - Leukoplakia \neq candidiasis
 - Erythroplakia = higher malignancy risk
 - Biopsy is required for confirmation 
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Revision Summary

- Cleft lip/palate → failure of fusion (embryology)
 - Aphthous ulcer → painful, recurrent, gray base
 - Behçet → oral + genital ulcers + uveitis
 - Oral herpes → HSV-1, latency, reactivation
 - SCC → tobacco + alcohol, floor of mouth, precursors
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-> The End <-