THE UNIVERSITY OF WESTERN AUSTRALIA

Oral Health Centre of Western Australia

Gastrointestinal diseases

Bobby Joseph
Associate Professor
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Learning objectives

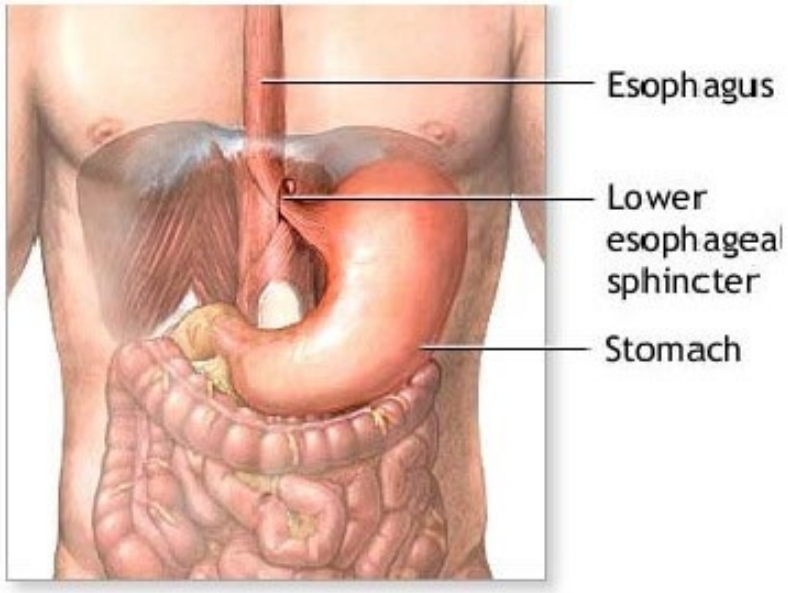
- To have a sound knowledge of the oral manifestations of GI diseases and the modifications required in the treatment plan for patients with these diseases.
- To have a good knowledge on the investigations and common lab tests available to assess the status of these diseases.

Oral lesions and GIT diseases

- Oral lesions may occur in several gastrointestinal tract diseases
- In a few, these are **primary oral lesions** resembling those of the lower gut
- In almost all, **secondary lesions** may be due to malabsorption and surgical resection of the gut

Gastro-oesophageal reflux (healthy individuals)

- Term used to describe a backflow of acid from the stomach into the oesophagus



Gastro-oesophageal reflux disorder (GORD)

- Increased frequency and duration of reflux
- Damage caused to oesophageal mucosa by regurgitation of gastric contents

GORD (predisposing factors)

GI disorders

- High acidity of gastric contents
- Impaired gastro-oesophageal motility

Extra-GI conditions

- Obesity
- Large meals
- Smoking
- Excessive alcohol consumption

GORD: clinical features

Symptoms

- Heartburn
- Uncomfortable burning sensation behind the sternum after a meal
- Acid taste
- Epigastric pain
- Dysphagia
- Chronic cough

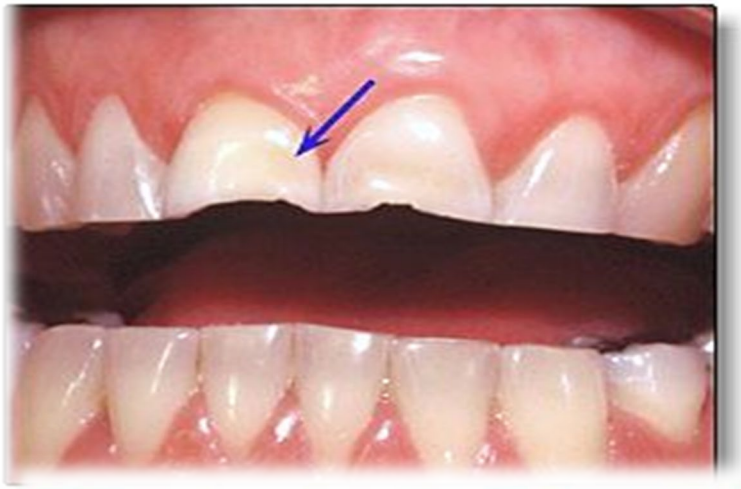
Complications

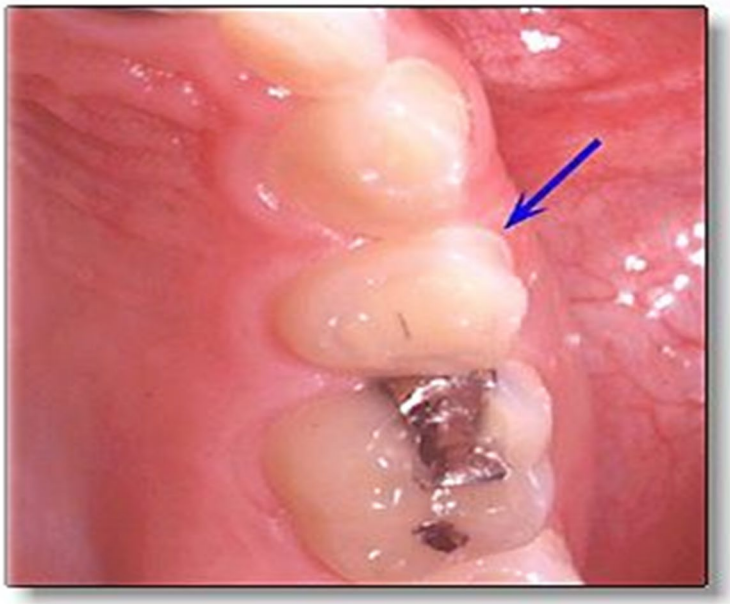
- Stricture
- Ulceration
- Iron deficiency anaemia
- Reflux oesophagitis
- Epithelial metaplasia

(Barrett's oesophagus)

GORD: Dental aspects

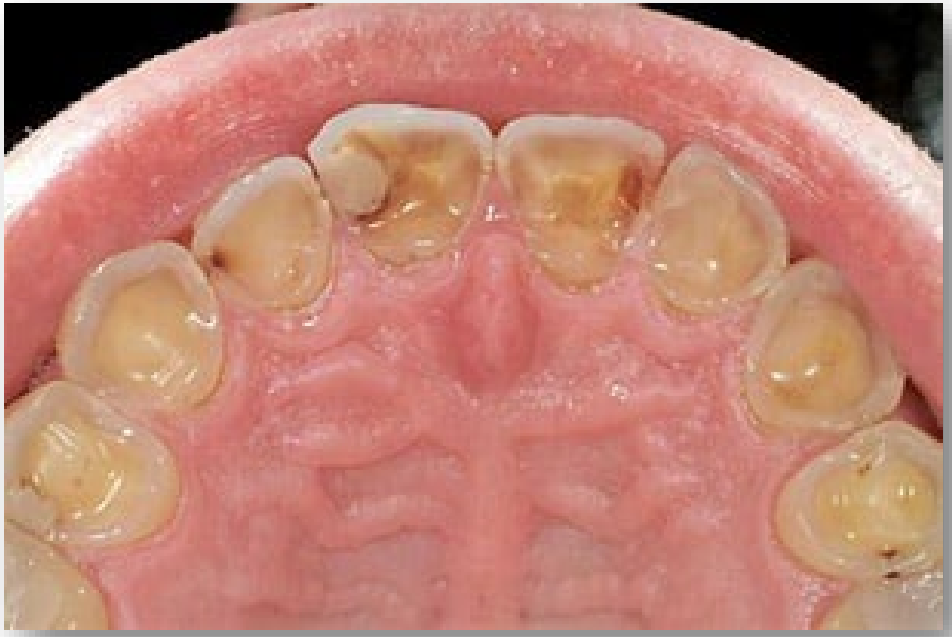
- Gastric contents pH as low as 1 cause dental erosion
- Seen on the palatal aspects of upper anterior teeth and premolars
- Worse if impaired salivation





GORD

- Patients presenting with palatal dental erosion should be assessed for GORD



GORD: management

Diagnosis:

Confirmed by oesophageal pH monitoring

Symptoms relieved:

- Losing weight
- Raising the head of bed at night
- Frequent small meals with antacids

Drugs

H_2 blockers

- cimetidine
- ranitidine

Proton-pump inhibitors

- omeprazole
- lansoprazole

Drug therapy: GORD

H2 Blockers

(histamine H2 receptor antagonist)

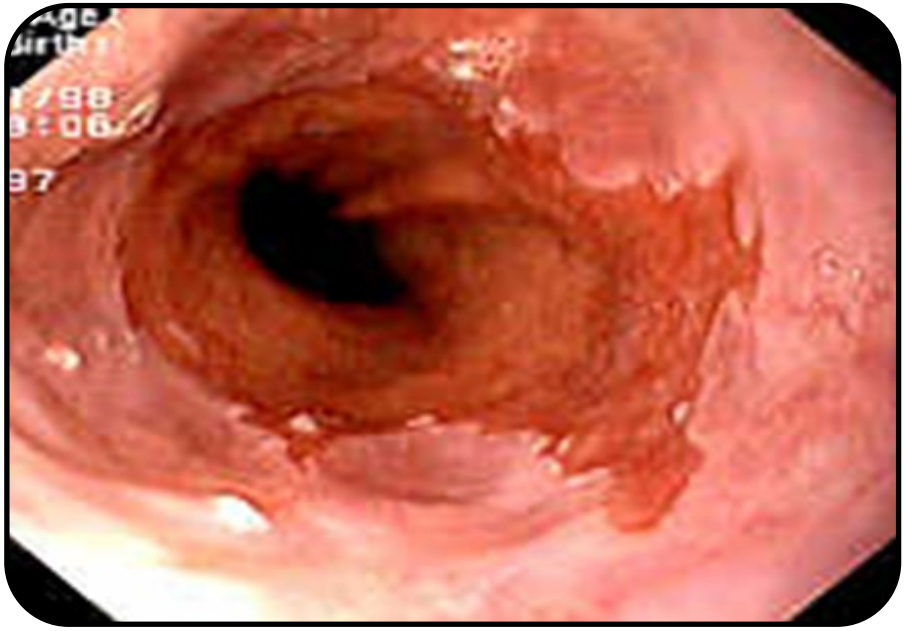
- Histamine stimulates parietal cells to release acid
- H2 blockers stop parietal cells from responding to histamine
- Reduces acid production
- Examples: *cimitidine*, *ranitidine*

Proton pump inhibitors

- Reduce the amount of acid made by stomach
- Block a chemical system: **hydrogen-potassium adenosine triphosphatase**
- Examples: *omeprazole*, *lansoprazole*

Barrett’s oesophagus

- Premalignant condition
- Normal squamous epithelium replaced by metaplastic columnar epithelium
- Consequence of chronic gastro-oesophageal reflux
- Common, under diagnosed entity
- Incidental finding at endoscopy



Pseudomembranous colitis (antibiotic associated colitis)

- Inflammation of the colon associated with overgrowth of Clostridium difficile
- Overgrowth o*f* C.difficile related to recent antibiotic use
- Production of enzymes and toxins A and B

Pseudomembranous colitis

Clostridium difficile

- Gram+, spore-forming anaerobic rod, seen in the soil, sand and faeces
- Spores formed are implicated in spread of infection
- Colonizes 2-3% of asymptomatic adult and up to 50% of the elderly

Pseudomembranous colitis

- Symptoms usually begin after a few days of antibiotic therapy or as long as several weeks after finishing taking the antibiotic
- Abdominal cramps, pain or tenderness
- Pus or mucous in stool
- Watery diarrhea (5 to 10 times per day) or even bloody

Risk factors (PC)

- Frail elderly patients
- Patients staying in the hospitals or a nursing home
- Patients on tube feeding
- HIV patients
- Increased inhalation of spores (e.g. in farms)
- Rarely affecting infants or children

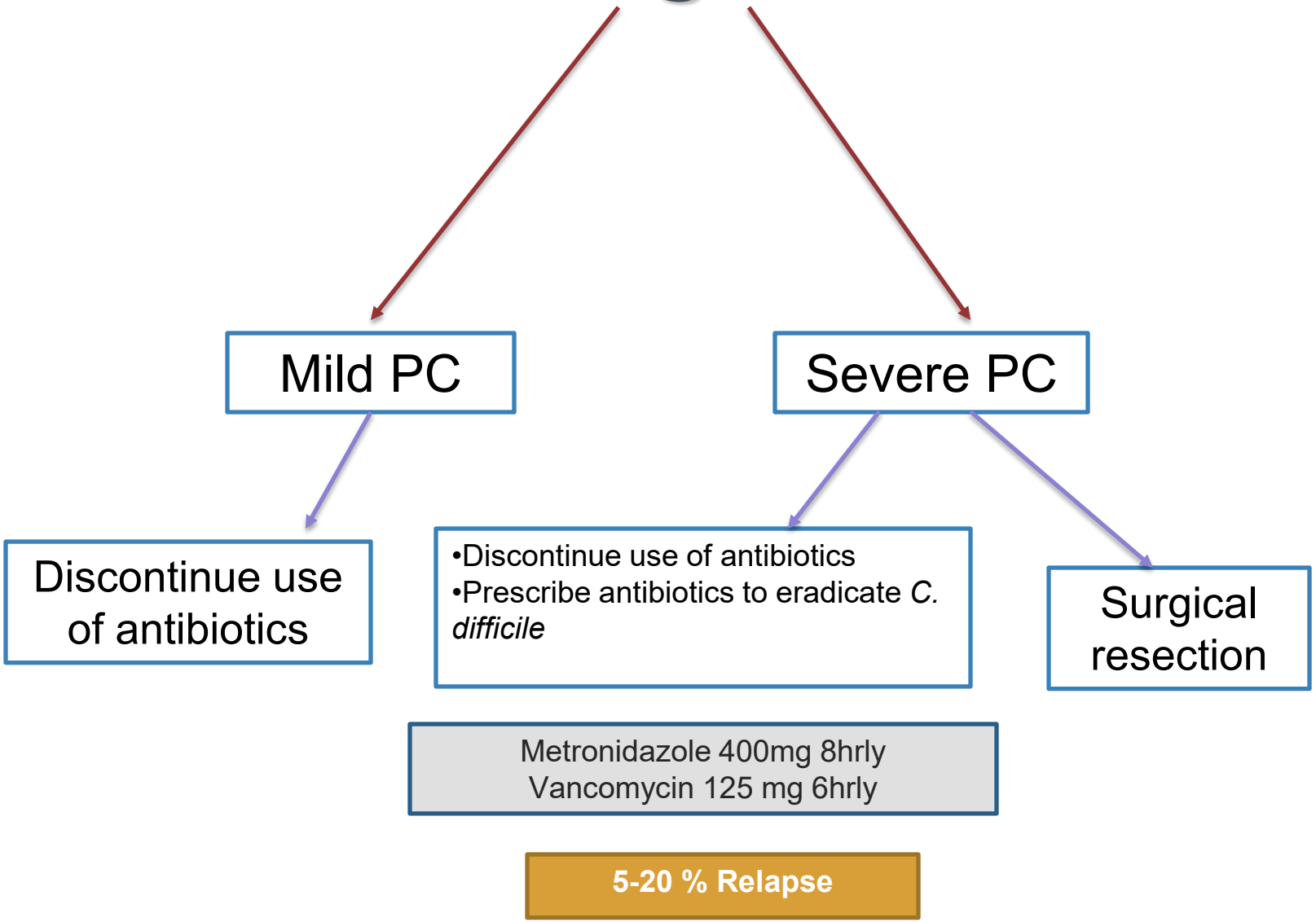
Diagnosis (PC)

- Stool cytotoxin test which has high sensitivity
- Immunoassay for *C.difficile* toxin in the stool
- Colonoscopy
- Plain X-rays and CT scanning may be helpful

Complications

- Low levels of potassium
- Dehydration
- Metabolic acidosis
- Hypotension
- Peritonitis
- Toxic megacolon: swelling of the colon, incapable of expelling gas and stool, cause colon to rupture

Pseudomembranous colitis Management



Dental consideration

- Have a good knowledge of frequently used antibiotics that predisposes to PC in elderly, debilitated and those with previous history of PC
- PC following short-term use of Clindamycin has not been reported after use of AHA prophylactic regimen
- No elective treatment until resolution of PC
- Oral candidiasis following PC therapy

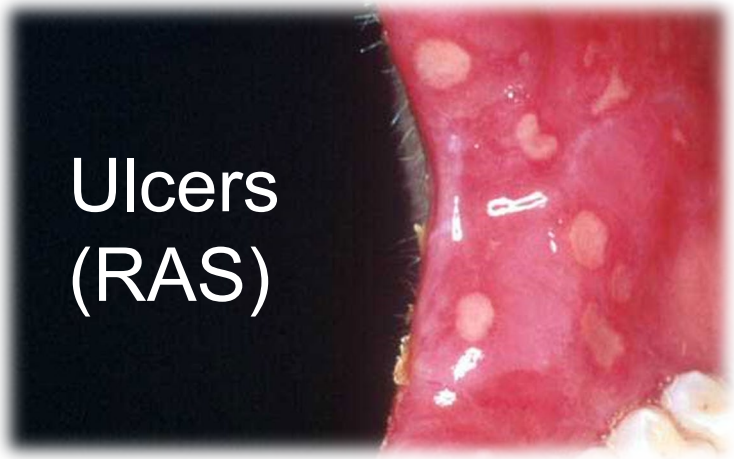
Coeliac disease (gluten-sensitive enteropathy)

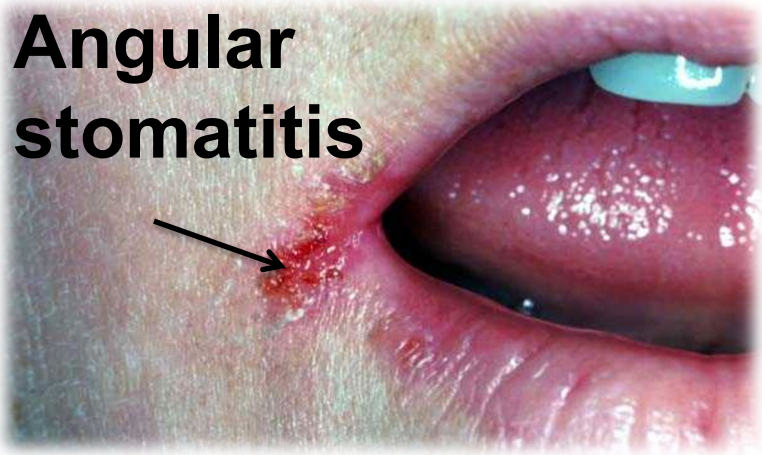
- Not uncommon
- Ethnic group: Celts
- Not recognised if not severe
- Genetically determined hypersensitivity to gluten
- Affects the jejunum

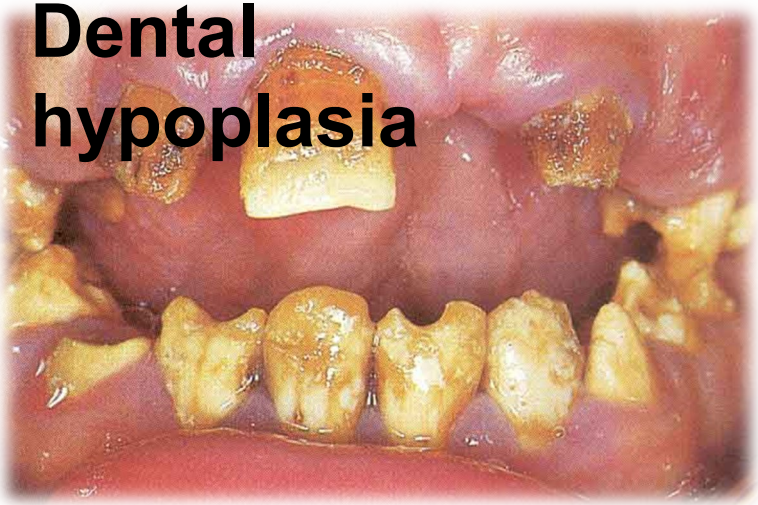
Coeliac disease: clinical features

- Patients may appear healthy
- Manifestations of malabsorption
- 3% of patients with aphthae have coeliac disease
- Diarrhoea, weight loss, weakness

Oral features: coeliac disease



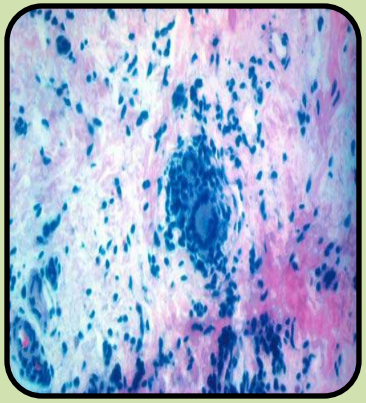




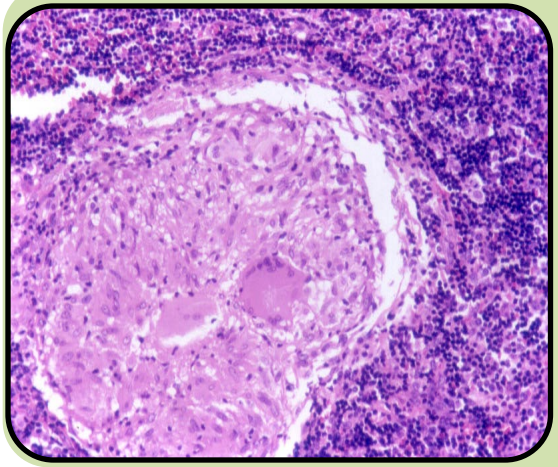
Management: coeliac disease

- Specialist referral is necessary
- Haematological and gastrointestinal investigations indicated
- Antibodies to gluten, reticulin, endomysin, transglutaminase
- Small bowel biopsy required
- Gluten free diet
- Fe, folate, Vit B_{12} def. should be rectified

Orofacial granulomatosis (OFG)



Describes a clinical syndrome presenting with **swelling of face**, **lips**, oral tissues in association with histological evidence of **non-caeseating** granulomatous inflammation



Caeseating granuoma: tuberculosis

Orofacial granulomatosis

Not a disease entity
Regarded as a provisional diagnosis
Condition includes: 1. Localised disorders affecting mouth and face 2. Oral manifestations of systemic disease
2a. Sarcoidosis
2b.Crohn’s disease
2c.Melkersson-Rosenthal syndrome
2d.Cheilitis granulomatosa

OFG: aetiology & other associations

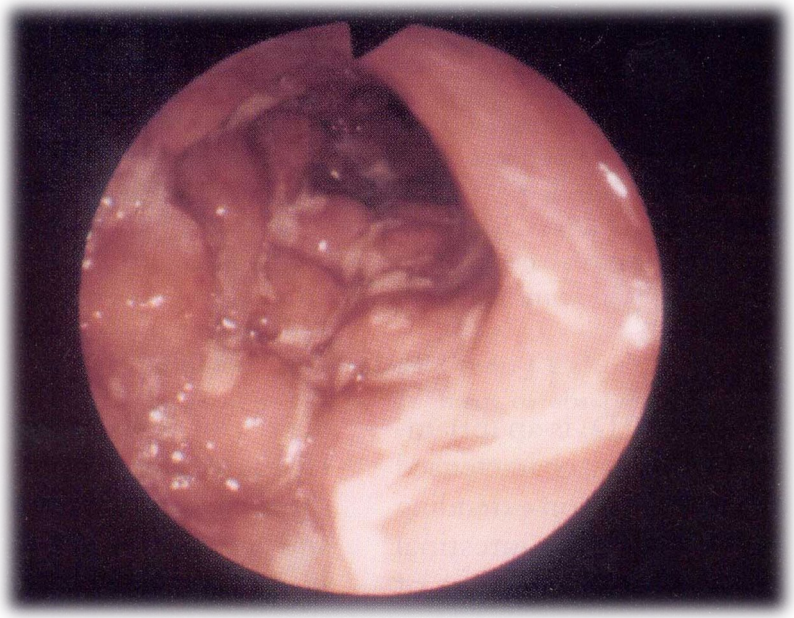
- Cause unclear
- Allergy, infection and heredity-suggested causes
- Intolerance to certain foods, flavourings, constituents of toothpastes
- Preservatives in the diet: cinnamaldehyde, cocoa, benzoates
- Occasionally dental materials

Crohn’s disease

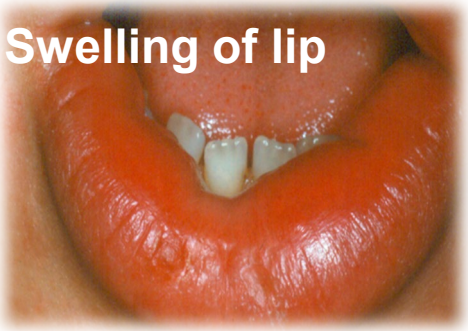
- Chronic inflammatory idiopathic granulomatous disorder
- Affects mainly small intestine (ileum), can affect any part of GIT including mouth
- 10% of patients with Crohn’s disease of the bowel have oral lesions
- Oral lesions can be seen in the absence of GIT involvement, same as those seen in OFG

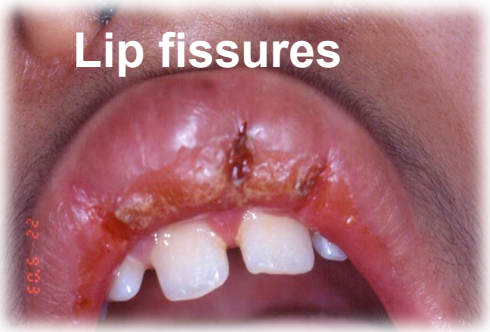
Crohn’s disease: clinical features

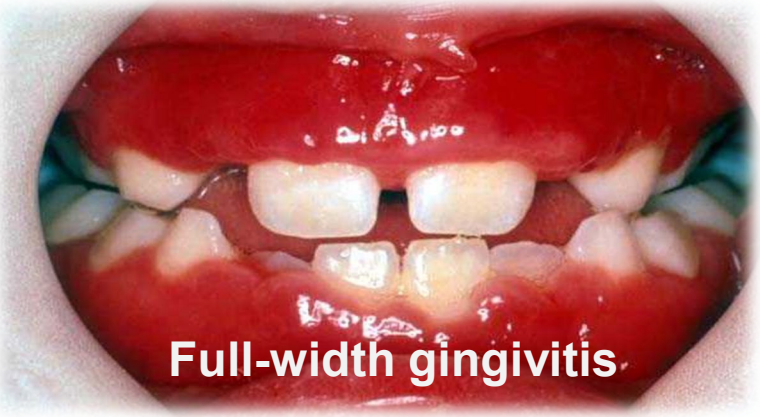
- Mucosal inflammation with ulceration & fistulae formation
- Lymph node hyperplasia: obstructive oedema
- Abdominal pain, diarrhoea and with passage of blood & mucus
- Anaemia, weight loss

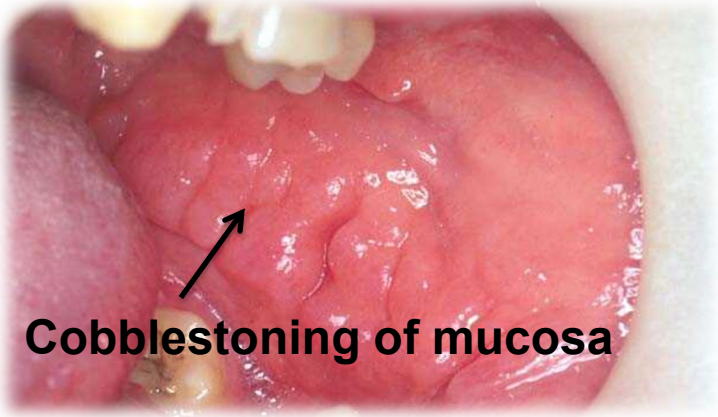


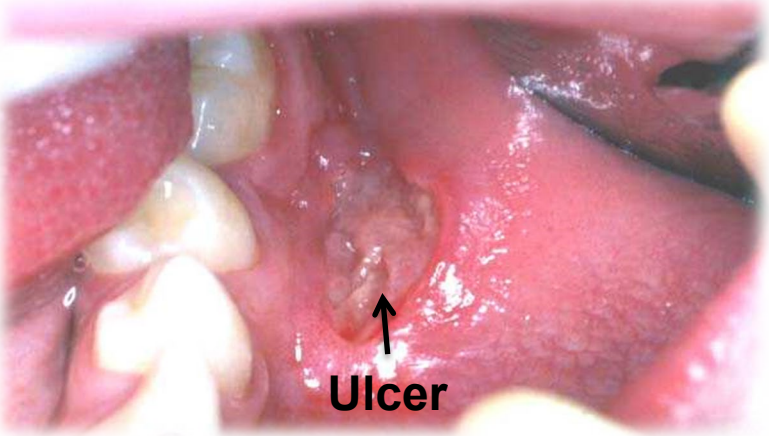
Orofacial features:Crohn's disease &OFG

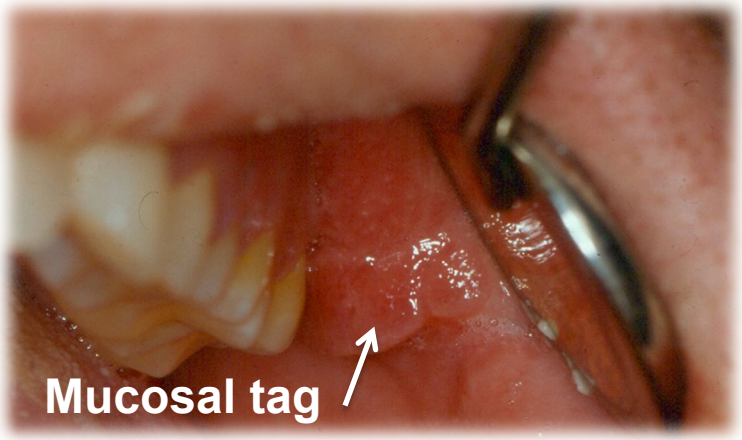












Diagnosis: crohn’s disease

- Thorough investigation including underlying systemic conditions
- Oral biopsy
- Haematological, GIT& biochemical investigations (to rule out sarcoidosis)
- Patch testing
- Consultation with the gastroenterologist

Management: crohn’s disease

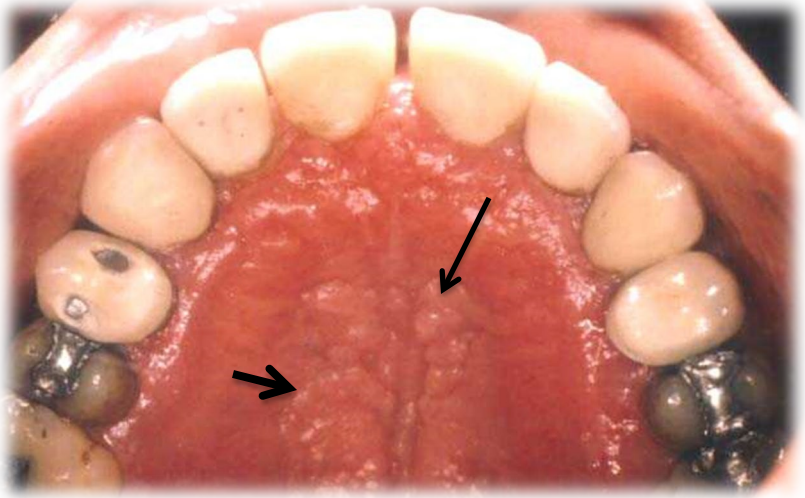
- **Oral ulcers**: topical or intralesional corticosteroids antiseptic & analgesic mouthwash
- Short courses of systemic steroids (budesonide: less side effects)
- Mesasalazine (aminosalicylates)
- Refer to gastroenterologist

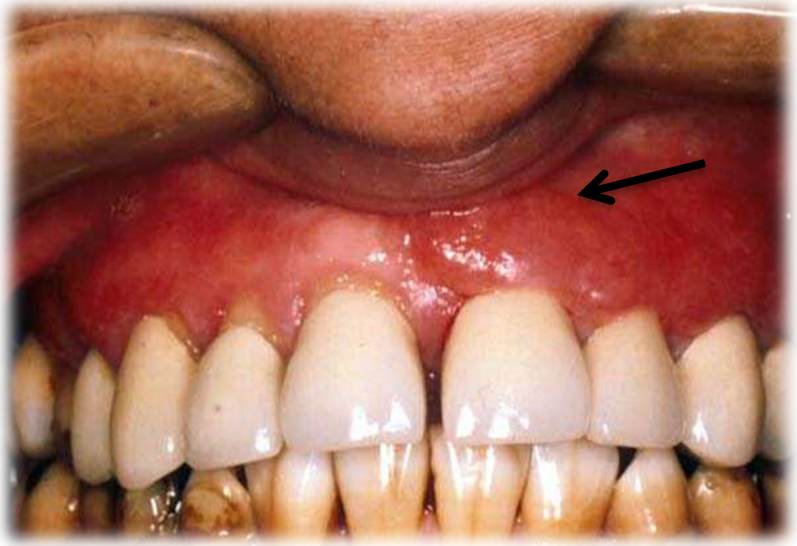
Sarcoidosis

- Multi-system granulomatous disorder of unclear aetiology
- Affects young adult females, especially Afro-Caribbeans
- Granulomas form in lungs, lymph nodes, salivary glands, mouth
- Causes bilateral hilar lymphadenopathy
- Erythema nodosum

Orofacial features: sarcoidosis

- Heerfordt’s syndrome
- (salivary and lacrimal glands swelling, facial palsy, uveitis)
- Xerostomia
- Mucosal nodules
- Gingival swelling
- Labial swelling





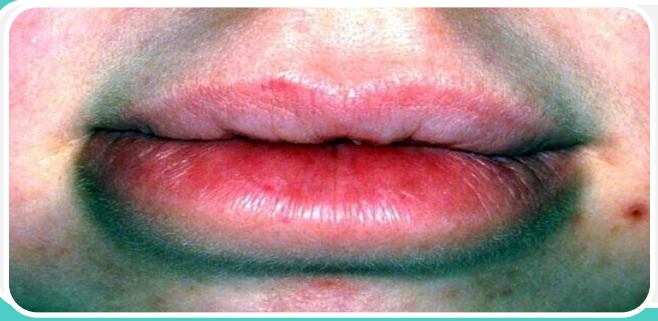
Management: sarcoidosis

- Biopsy of labial salivary gland
- Serum angiotensin-converting enzyme raised
- Positive gallium scan of lacrimal and salivary glands
- Chest radiography (for enlarged hilar lymph nodes)

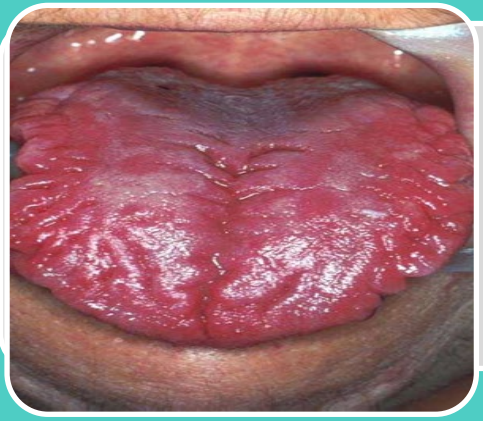
Patients to refer:

- Suspected malignancy in neck, including lymphoma
- Suspected metastatic disease in neck
- Unexplained lymphadenopathy

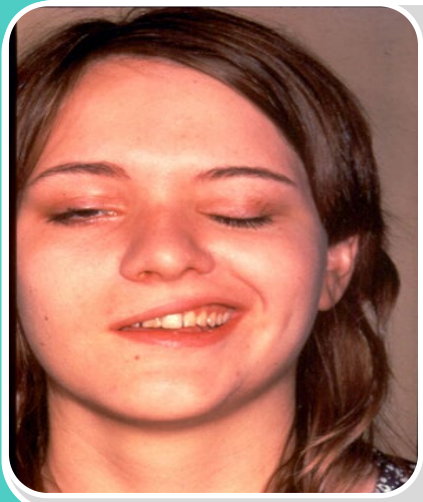
Melkersson-Rosenthal syndrome



Lip or facial swelling



Fissured tongue



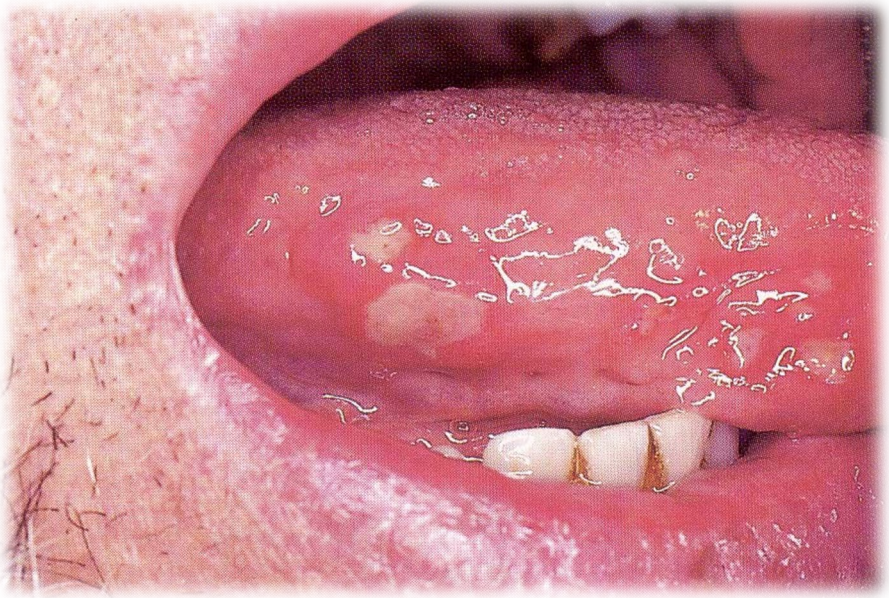
Lower motor neurone facial palsy

Ulcerative colitis

- Uncommon inflammatory disease, mainly affects adults
- Ulcers and polyps in the colon
- May undergo malignant change
- Persistent diarrhoea
- Passage of blood & mucous
- Iron deficiency anaemia
- Weight loss

Ulcerative colitis

- Widespread ulceration of the colon
- Complicated by- haemorrhage, perforation, malignancy
- Oral lesions-severe apthae, candida also seen
- Secondary to nutritional deficiency resulting from malabsorption

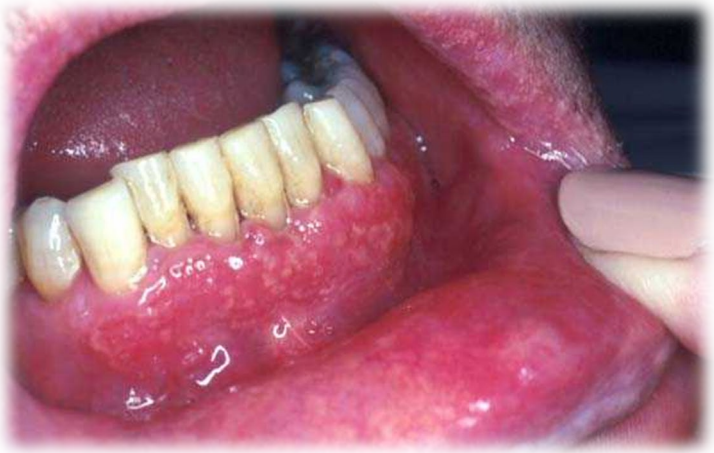


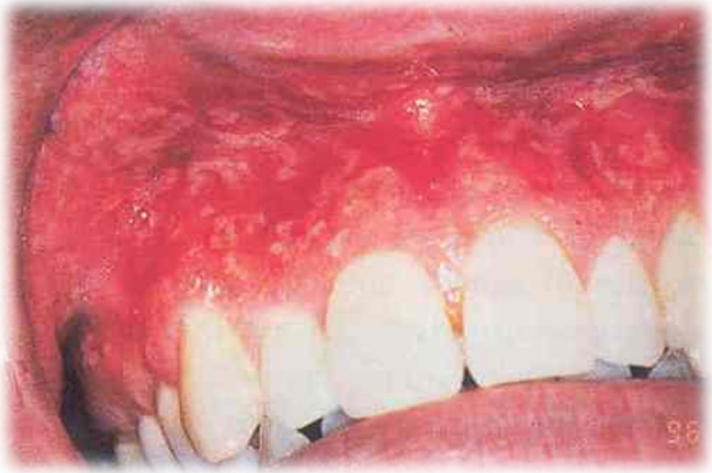
Management

- Specialist referral is necessary
- Biopsy, FBC
- Sigmoidoscopy
- Haematinics needed to treat secondary deficiency
- Topical steroids (pessarries or enemas), systemic sulfasalazine

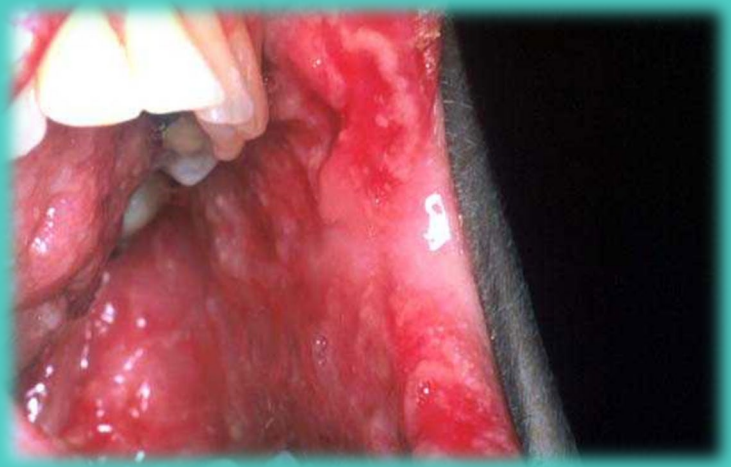
Pyostomatitis vegetans

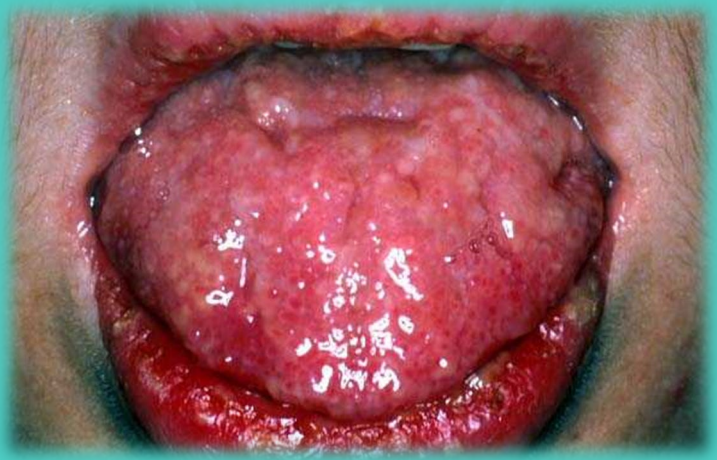
- Rare disorder
- Bowel symptoms precede oral involvement by several months or years
- Pustular lesions on the oral mucosa & gingiva
- Pustular lesions rupture-lead to erosions & ulceration-snail track ulceration
- Topical steroids successful
- Management of associated IBD-improvement of oral lesions





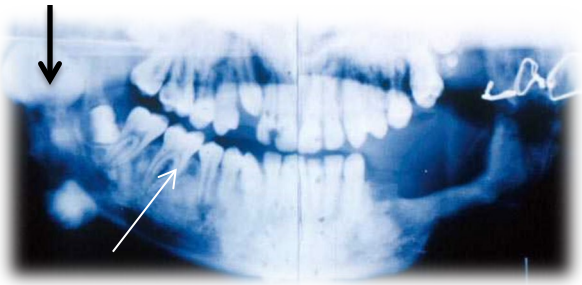
Pyostomatitis vegetans is an important oral marker for inflammatory bowel disease

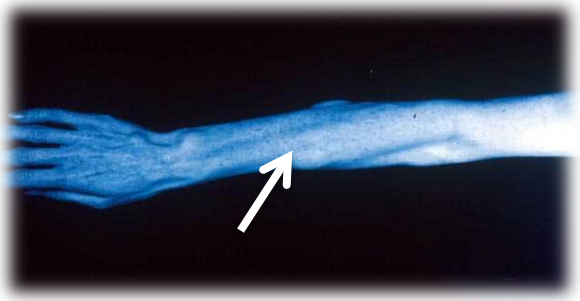


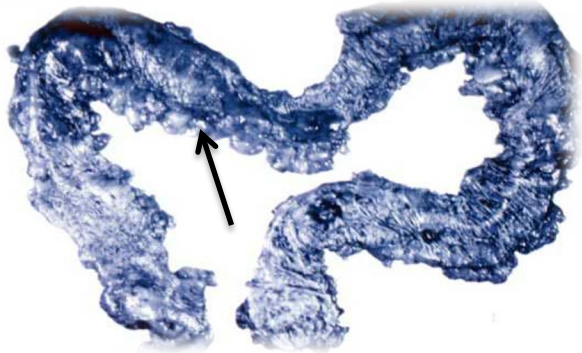


Gardner’s syndrome

- Multiple osteomas of jaws
- Epidermal/sebaceous cysts of skin
- Multiple fibrous tumours
- Polyposis coli (marked tendency to undergo malignant change)







Peutz-Jeghers syndrome

- Autosomal dominant inherited disorder
- Caused by germline mutation in the liver kinase B1 (LKB1) tumour suppressor gene
- Increased cancer risk in adult life
- Hamartomatous polyps develop early in life
- Cause complications: abdominal pain, bleeding, anaemia, acute intestinal obstruction

Peutz-Jeghers syndrome

- Brown to blue-black macules around the mouth, nose, eyes
- Polyps in the small intestine, rare cases outside GIT
- May undergo intussusception or malignant changes