

Dental Clinical Practice 4 Semester 2
Paediatric Dentistry Lecture

Paediatric Oral Medicine & Oral Pathology
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Introduction

- Presentation of pathology in children is often different from adult
- May lesions change in form or extent with growth of the body
- Good working knowledge of oral medicine and oral pathology is needed to determine an appropriate differential diagnosis

Orofacial infections

- Odontogenic infections
- Non-odontogenic infections
 - Bacterial
 - Viral
 - Fungal

Odontogenic infections

Acute:

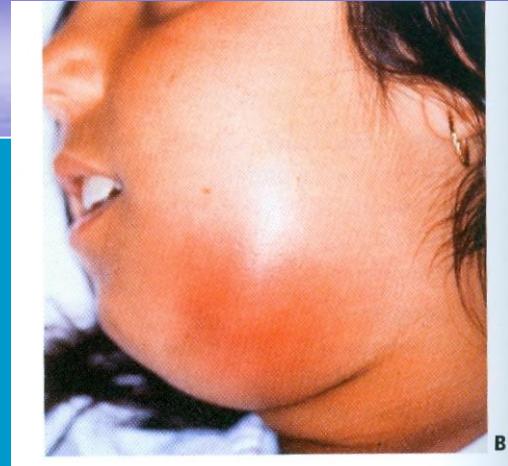
- A sick and upset child
- Raised temperature
- Red and swollen face
- Anxious and distressed parents

Chronic:

- Sinus may be present
- Mobile tooth
- Halitosis
- Discoloured tooth

Presentation

- Children tend to present with facial cellulitis, usually febrile.
- If infection has perforated the cortical plate child may not be in pain



Presentation

- Maxillary canine fossa infection.
Posterior spread may lead to cavernous sinus thrombosis.
- Mandibular infection may compromise the airway.



A



B

Management

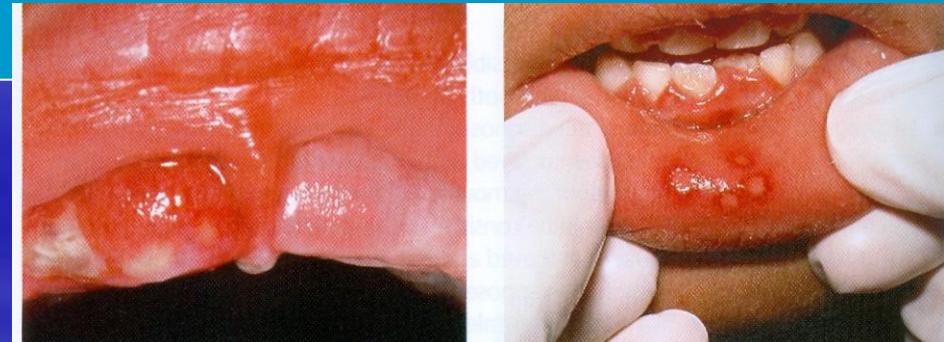
- Removal of the cause
- Local drainage and debridement
- Maintenance of fluids
- Use of antibiotics (Amoxicillin or penicillin V)
- 0.2% chlorhexidine gluconate mouth wash
- Pain control with paracetamol

Other common infections of the orofacial region

- Primary herpetic gingivostomatitis
- Coxsackie virus
- Candidiasis: acute pseudomembranous
common in infants

Primary Herpetic Gingivostomatitis

- Most common cause of severe oral ulceration in children
- Mostly caused by HSV I
- Usually occurs after 6 months of age
- Incubation time is 3-5 days with prodromal 48hrs history of irritability, pyrexia, malaise
- This is followed by stomatitis, gingivitis, vesicles and ulcers
- Self-limiting ulcers heal spontaneously within 10 to 14 days



Management

- Encourage oral fluids
- Analgesics
- Mouthwash 0.2% chlorhexidine gluconate
- Antiviral oral suspension for severe cases
- Administration of aciclovir in the first 72 hrs of infection before the vesicle formation **may bring about resolution of infection**

Herpangina

- Caused by Coxsackie group A virus
- Prodromal phase of low grade fever and malaise before the appearance of the vesicles
- Symptomatic care

Acute pseudomembranous candidosis

- Presented as thrush in infants
- White plaques are present which on removal reveal an erythematous base
- Antifungal medication Nystatin or amphotericin B for at least 4 weeks

Other ulcerative or vesiculo-bullous lesions

- Traumatic: post- LA, toothbrush, food
- Recurrent aphthae
- Erythema multiforme
- Stevens Johnson syndrome
- Epidermolysis bullosa

Traumatic ulceration after mandibular block anaesthesia

- Common cause
- Parent should be warned



Recurrent aphthae

Three types minor aphthae, major aphthae and herpetiform

Minor aphthae (RAU): crops of shallow ulcers measuring up to 5mm on the non-keratinized mucosa

- Yellow pseudomembranous slough with erythematous border
- Heals with in 10 – 14 days

Major aphthae: keratinized mucosa may also be involved. Last longer and heal with scarring

Management:

Symptomatic care with mouthwash

Topical steroids



Minor aphthae (RAU)



Major aphthae

Erythema multiforme

- Self limiting with mucosal involvement limited to the oral cavity
- Macules (target lesions) occur on the limbs. This lesion has concentric colour with erythematous halo and central blister.
- Painful



Management

1. Debridement with 0.2% chlorhexidine gluconate
2. Adequate fluid replacement and nutrition
3. Pain control

Stevens Johnson syndrome



- Acute febrile illness, generalized exanthema, oral lesions and purulent conjunctivitis
- Vesiculobullous eruption over the body
- Severe involvement of multiple mucous membranes: oral and conjunctiva.

Management

- Debridement with 0.2% chlorhexidine gluconate
- Adequate fluid replacement and nutrition
- Pain control

Epidermolysis bullosa

- Skin is extremely fragile and mucosal involvement may occur
- The act of suckling may induce bullae formation

Management

1. Difficult because of the fragility of the skin and mucosa
2. Early supportive care

Vascular Lesions

- Haemangioma
- A-V Malformations
- Haematoma
- Petechiae and purpura

Haemangioma

- Typically present at birth and grow with infant and regress with time



Management

No treatment other than observation

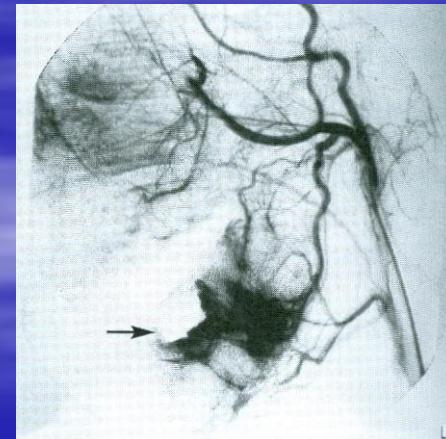
A-V Malformations

- May be life-threatening condition
 - Classified according to the flow characteristics into three types
1. Low-flow lesions: capillary, venous, lymphatic or combined. Eg., port-wine stains, sturge-weber syndrome



2. High-flow lesion:

- Arterial with arteriovenous fistulae
- Present with mobile and sometime painful teeth, a bruit and palpable pulses
- Bleeding from gingiva and bony involvement



Angiogram: Lesion extending posterior to pack (arrow)

Management

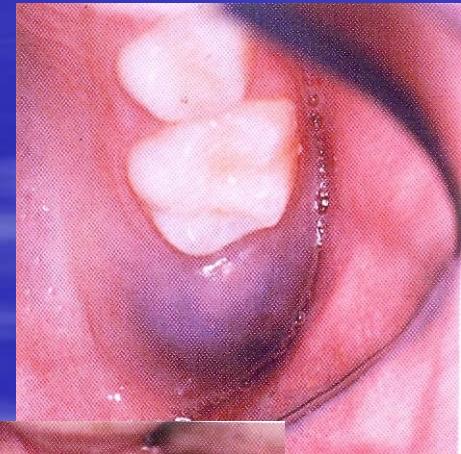
- **Low-flow lesions** can be removed by careful surgery with identification and ligation of feeder vessels. Large lesion can be managed by cryotherapy, laser or injection of sclerozing agents
- **High-flow lesion** require selective embolization of the vessels but recurs. Hence repeat embolization and resection is recommended.

Eruption cyst or haematoma

- Follicular enlargement appearing just before tooth eruption
- Lesion tend to be blue-back as they may contain blood

Management

1. No treatment unless infected
2. Follicle allowed to rupture



Petechiae and purpura

- Petechiae are small pinpoint submucosal or subcutaneous haemorrhages
- Purpura or ecchymoses present as large collection of blood.
- These lesion present in patient with severe bleeding disorders
- Initially bright red but will change to bluish-brown hue with time.

Gingival lesions

- Drug induced hyperplasia:
Phenytoin (dilantin)
Cyclosporine
Nifedipine etc
- Congenital hyperplasia
Hereditary gingivofibromatosis

Phenytoin enlargement

- Enlargement of the inter dental papilla
- Delayed eruption due to bulk of fibrous tissue

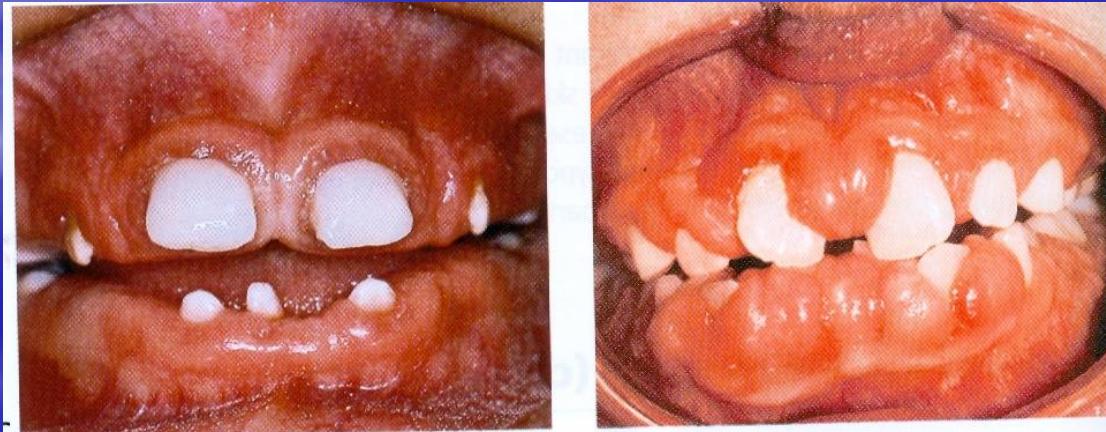
Management

1. Maintenance of oral hygiene
2. 0.2% chlorhexidine gluconate mouth wash
3. Gingivectomy



Ciclosporin A induced gingival enlargement

- Children undergoing organ transplant and anti-rejection chemotherapy ciclosporin A is given.
- Gingival overgrowth occurs in 30 to 70% of these patients.
- **Management:** good oral hygiene, mouth wash and gingivectomy if required.

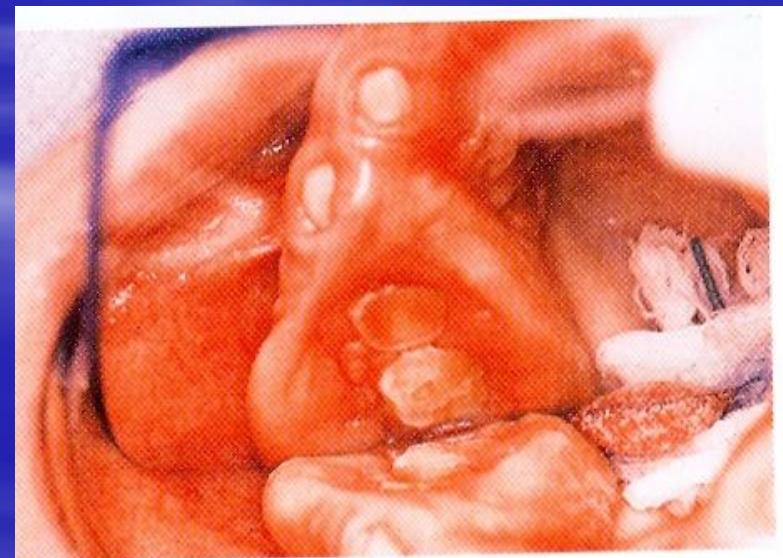


Hereditary gingival fibromatosis

- Gingival enlargement
- Occur sporadically or autosomal dominant or autosomal recessive trait

Management:

1. Gingivectomy or periodontal flap surgery

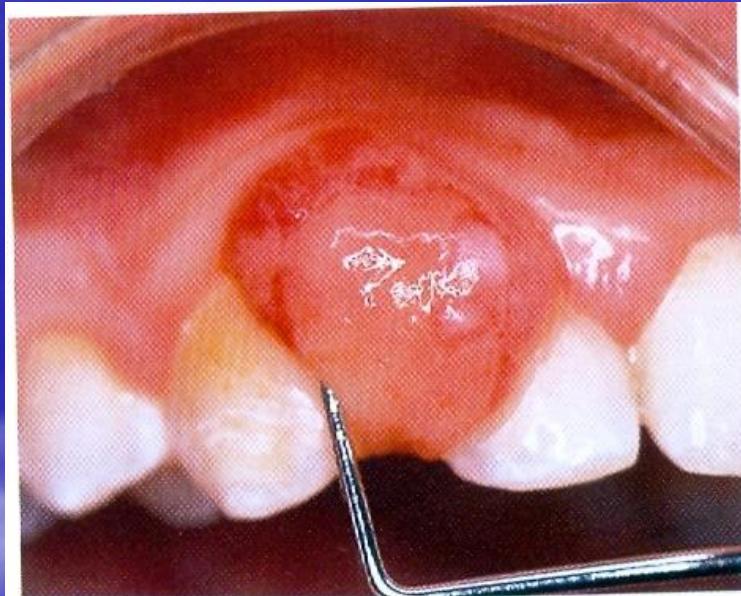


Epulides and exophytic lesion

1. Fibrous epulis
2. Peripheral giant cell granuloma
3. Congenital epulis of the new born

Fibrous epulis

- Seen in children resulting from exuberant fibro-epithelial reaction to plaque
- Seen in the interdental papillae



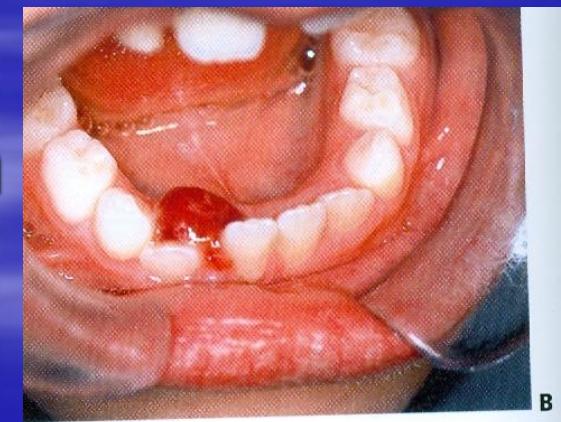
Management:

1. Oral hygiene and surgical excision

Peripheral giant cell granuloma

- Occur in the region of the primary dentition
- Colour is dark purple
- Bone loss of the alveolar crest
- If there is intra-osseous lesion the case will be diagnosed as central giant cell granuloma

Management: Surgical excision



Congenital epulis of the newborn

- Found only in neonates
- Arises from the gingival crest usually pedunculated



Management:

1. Regress with time
2. Large lesion which interfere with feeding are removed

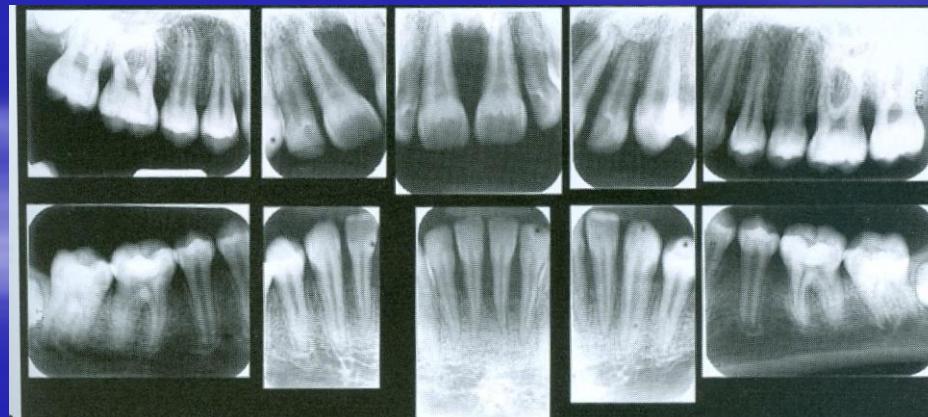
Premature exfoliation of primary teeth

- Neutropenia
- Qualitative neutrophil defects
- Metabolic disorders
 - 1. Hypophosphatasia
- Connective tissue disorders
 - 1. Acrodynia
 - 2. Scurvy
- Neoplasias
 - 1. Langerhans cell histiocytosis
 - 2. Acute myeloid leukaemia
- Self-injury
 - 1. Psychtic disorders

Cyclic neutropenia



- There is an episodic decrease in the number of neutrophils every 3 to 4 wks
- Peripheral neutrophil count drops to zero during this period the child is susceptible to infection.
- Recurrent oral ulceration, gingival and periodontal involvement resulting in mobile of teeth



Management:

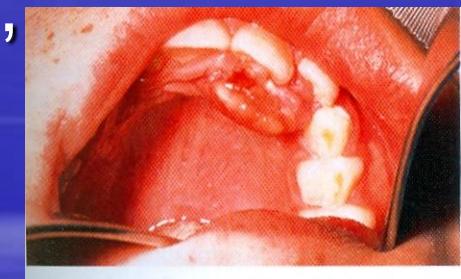
- 1. Early preventive involvement**
- 2. Dental care though all stages of cycle**
- 3. 0.2% chlorhexidine gluconate mouth wash**

Leukocyte adhesion defect

- Autosomal recessive condition with reduced level of adhesion molecules on peripheral leukocytes
- Resulting in reduced resistance to infection
- Delayed wound healing, oral ulceration, gingival inflammation, periodontitis and premature loss of primary teeth

Management:

1. Most children give way to infection
2. Granulocyte transfusion and bone marrow transplantation may be effective in some



Oral pathology in newborn

- Cysts of the newborn
 - Bohn's nodules
 - Epstein pearls
- Congenital epulis of the newborn
- Natal / neonatal teeth

Cysts of the newborn

Epstein's pearls: Small nodules present on midline of the hard palate

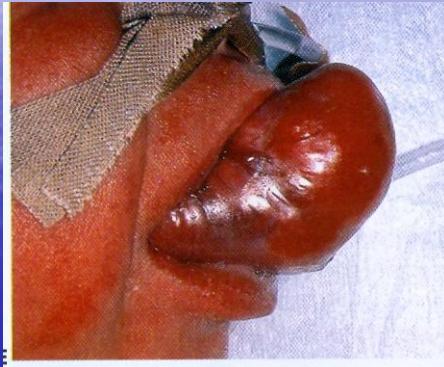
Bohn's nodules: Remnants of dental lamina occur on the labial or buccal aspect of the maxillary alveolar ridge

Management: No treatment

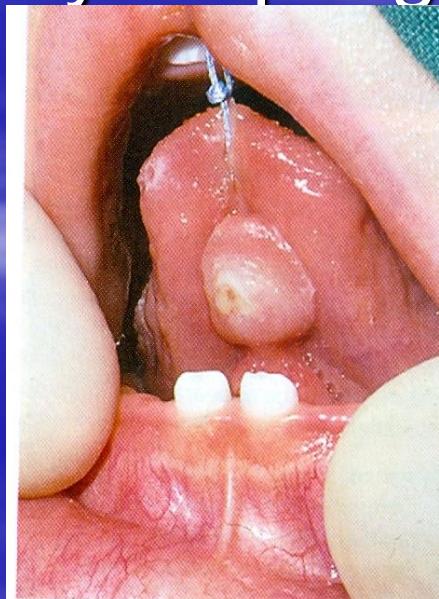


epulis of the newborn

- Congenital epulis of the newborn measuring 4cm



- Fibrous epulis on the ventral surface of the tongue caused by erupting natal tooth

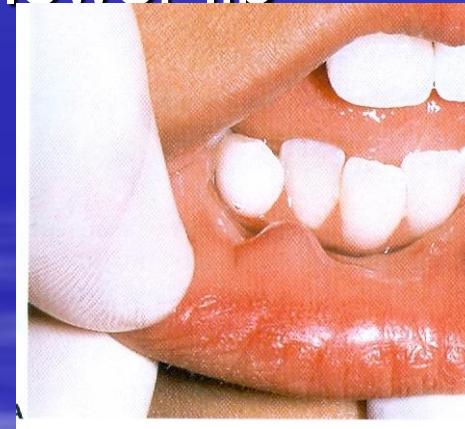


Diseases of Salivary gland

- Mucocele
- Ranula
- Sialoliths
- Mumps
- Recurrent parotitis

Mucocele

- Mucous extravasation cyst arises from damaged duct of minor salivary gland in lip and cheeks
- Common in children on the lower lip



Management:

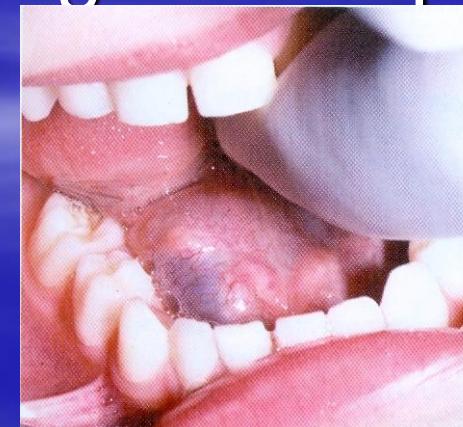
1. Some heal spontaneously
2. Surgical excision with associated minor salivary gland

Ranula

- Mucous cyst of the floor of the mouth
- Caused by damage of the duct of sublingual or sub mandibular gland
- Soft, bluish swelling present on one side of the floor of the mouth

Management:

1. Surgical excision if large marsupialization



Sialadenitis

- Inflammation of the salivary gland may result from viral, bacterial, obstruction or autoimmune causes

Management:

1. Antibiotics to control infection
2. Removal of sialolith

Odontogenic Tumours and Cysts

- Dentigerous
- Periapical cysts
- Parodontal cyst
- Odontogenic keratocyst
- Calcifying odontogenic tumour
- Odontoma

Compound

Complex

- Ameloblastic fibroma / fibro-odontoma
- Ameloblastoma

Non-Odontogenic cysts and tumours

- Melanotic neuroectodermal tumour of infancy
- Central giant cell granuloma
- Cherubism
- Osteoma / Gardner's syndrome
- Fibrous dysplasia
- Traumatic bone cyst
- Aneurysmal bone cyst
- Juvenile ossifying fibroma

Malignancies of soft tissue and bone

- Leukemia
 - ALL
 - AML
- Langerhans cell histiocytosis
- Burkitt's lymphoma
- Ewing's sarcoma
- Osteosarcoma