Topic :- Developmental Disturbances CONTINUED…..

Department of Oral & Maxillofacial Pathology

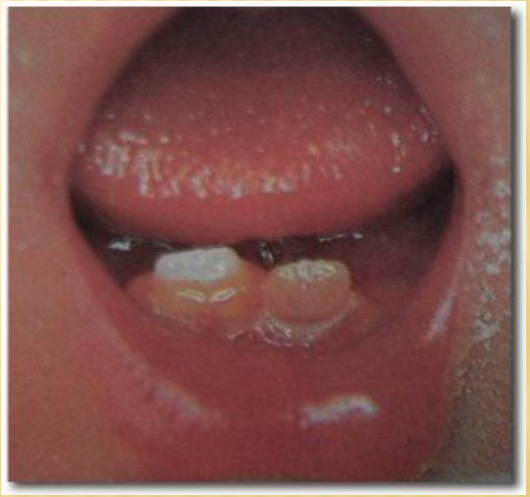
CONTENTS

- Premature eruption
- Eruption sequestrum
- Delayed eruption
- Multiple unerupted teeth
- Embedded or Impacted teeth
- Submerged teeth

PREMATURE ERUPTION

- **Natal teeth** :- premature eruption of deciduous teeth erupted in to the oral cavity in infants at birth.
- **Neonatal teeth**:- those teeth erupting prematurely in the first 30 days of life.

NATAL TEETH



NEONATAL TEETH

- **Etiology** :- Unknown, Familial pattern, secretion of several endocrine organs (e.g. thyroid, adrenals and gonads)
- **Clinical significance:-** nursing difficulties

- Premature eruption of permanent teeth is usually sequely of the premature loss of deciduous teeth
- Endocrine dysfunction (e.g. Hyperthyroidism)

ERUPTION SEQUESTRUM

- First described by Starkey and Shafer.

C/F

- It is a tiny irregular spicule of bone overlying the crown of an erupting permanent molar, found just prior to or immediately following the emergence of the tip of the cusps through the oral mucosa.
- As the tooth continues to erupt and the cusps emerge , the fragment of bone completely sequestrates through the mucosa and is lost.

R/F

- Appears as tiny irregular opacity overlying the central occlusal fossa but separated from the tooth itself.

ETIOLOGY

- If the bony spicule is larger and eruption is fast, complete resorption cannot occur and the eruption sequestrum is observed.

CLINICAL SIGNIFICANCE AND TREATMENT

- Child may complain of slight soreness in the area produced by the compression of the soft tissue over the spicule during eating and just prior to it breaking through the mucosa.

- No treatment is necessary.

DELAYED ERUPTION

- Unknown, although may be associated with certain systemic conditions such as-
  - rickets
  - cretinism
  - cleidocranial dysplasia

- Local factors may also delay eruption such as in cases of fibromatosis gingivae, in which the dense connective tissue will not permit eruption.

- In cases of generalized or systemic disturbances in which the dental problem is of secondary importance, treatment of the primary condition, if possible, will bring about the tooth eruption.

MULTIPLE UNERUPTED TEETH

- Uncommon condition
- Deciduous teeth or permanent teeth have failed to erupt (pseudoanodontia)
- Etiology :- endocrine dysfunction, in cleidocranial dysplasia

EMBEDDED OR IMPACTED TEETH

- **Embedded teeth** are individual teeth which are unerupted usually because of a **lack of eruptive force.**
- **Impacted teeth :-** prevented from erupting by some **physical barrier in the eruption path.**

- **Etiology:-** Crowding, Premature loss of deciduous teeth, rotation of tooth buds.

- Most frequently impacted:- Maxillary and **Mandibular third molars** and the maxillary cuspids followed by premolars and supernumerary teeth

ANKYLOSED DECIDUOUS TEETH (SUBMERGED TEETH)

- Submerged teeth are deciduous teeth
- Most frequently D. mandi. Second molars
- Variable degree of bone resorption and ankylosis with bone
- This prevents their exfoliation
- Surrounding permanent teeth erupts and the tooth appears to be submerged

- Diagnosis clinically and confirmed radiologically.
- Lack of mobility, upon percussion:- characteristic solid sounds in contrast to dull cushioned sound of normal tooth.
- Cause:- Unknown, trauma, infection, disturbed local metabolism or a genetic influence

SUMMARY

- Premature Eruption
- Eruption Sequestrum
- Delayed Eruption
- Multiple Unerupted Teeth
- Embededdded and Impacted teeth
- Ankylosed Deciduous Teeth

Fissural cysts of the oral region (inclusion, developmental)

Department of Oral & Maxillofacial Pathology

CONTENTS

- Median anterior maxillary cyst
- Median palatal cyst
- Globulomaxillary cyst
- Median mandibular cyst
- Nasoalveolar cysts
- Palatal cysts of neonate
- Thyroglossal duct cysts

NASOPALATINE DUCT CYST (INCISIVE CANAL)

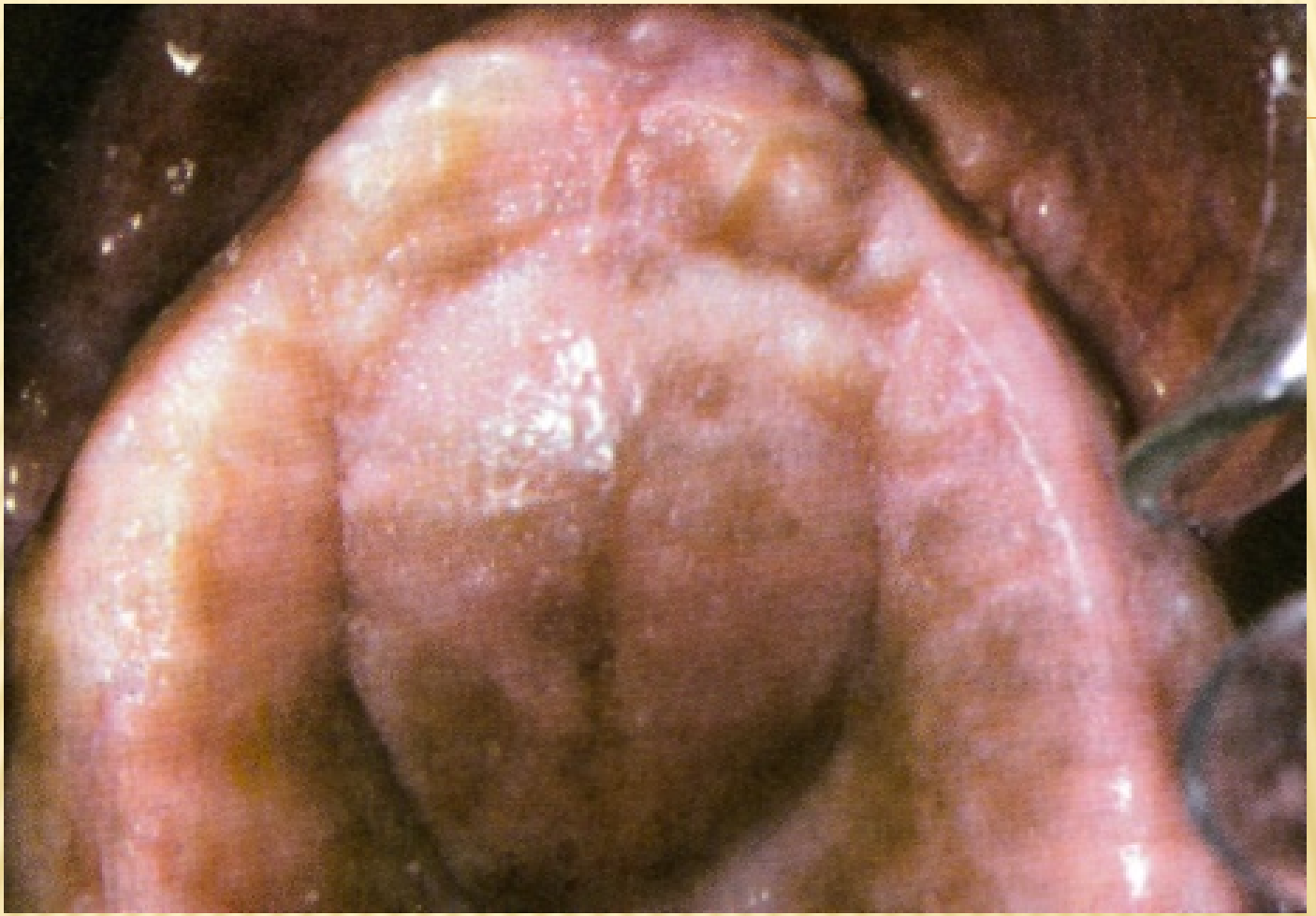
- Arises from embryonic epithelial residues in nasopalatine canal
- Epithelium included along the line of fusion of embryonic facial processes.
- May occur within the nasopalatine canal or in soft tissues of palate.

CLINICAL FEATURES

- Most common non odontogenic cyst (1% of population)
- Rarely in first decade, $4^{th,}$ 5^{th} and 6^{th} decades.
- Blacks > Whites
- Males > Females
- Swelling in the anterior region of midline of palate,
- Swelling on labial aspect of alveolar ridge

CLINICAL PRESENTATION

- Through and through fluctuation may be elicited
- Bulging of floor of nose
- If these swelling occur posteriorly, the diagnosis of median palatine cyst is made
- Pain and discharge may be present.

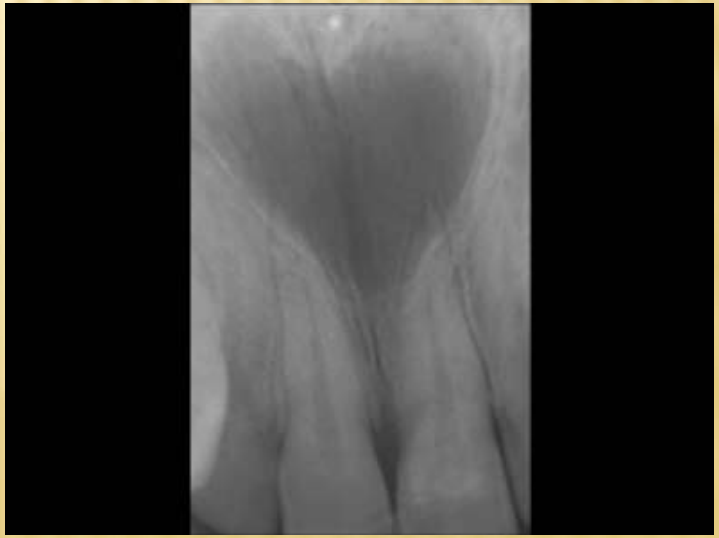


- **Cyst of the incisive papilla** :

bluish discoloration

RADIOLOGICAL PRESENTATION

- Shape of the fossa may be round, oval, diamond or funnel shaped
- Found in midline of palate, above or between the roots of the central incisor
- Round or ovoid or heart shaped radiolucency
- Inverted pear shaped

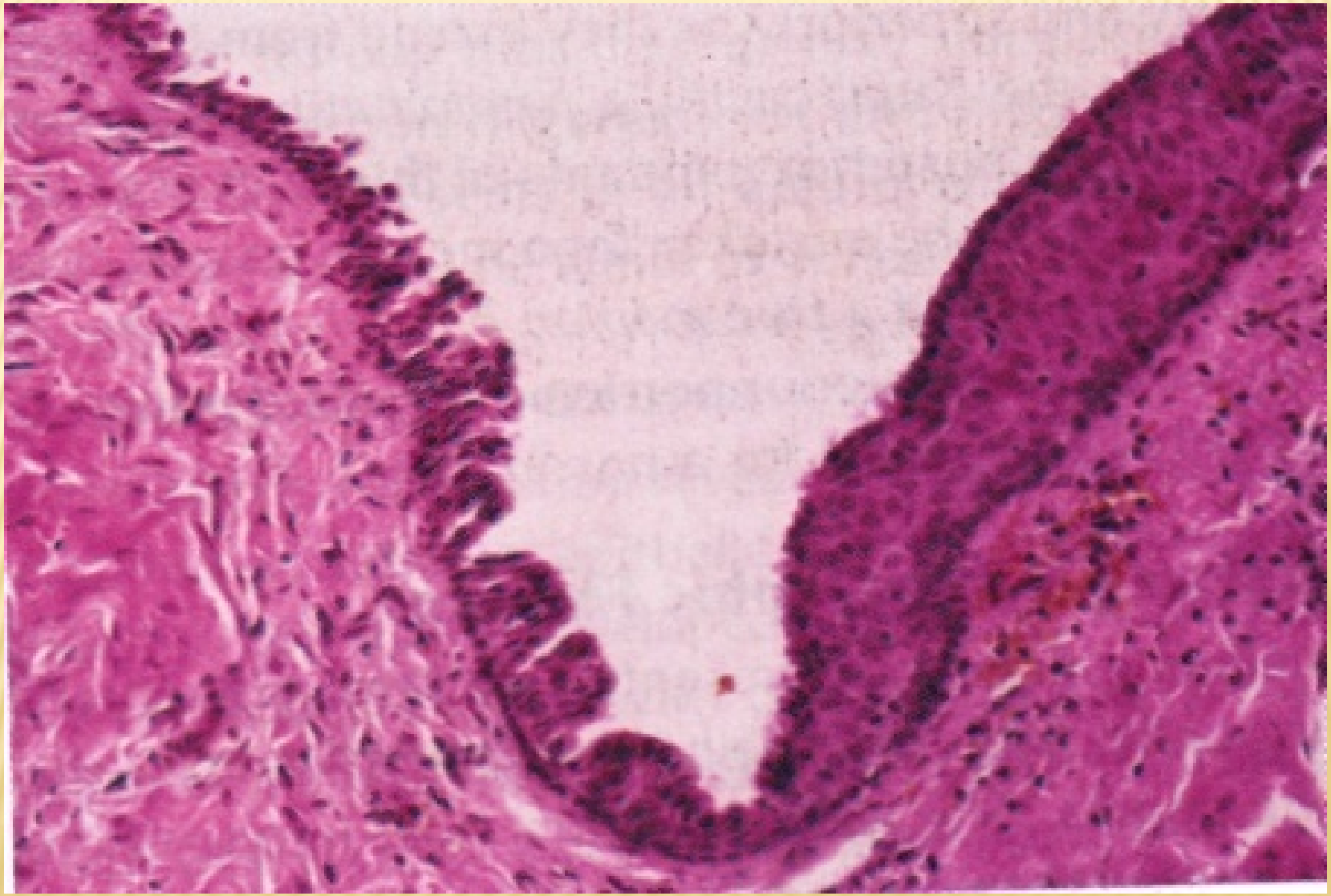


PATHOGENESIS & ETIOLOGY

- Nasopalatine duct in the incisive canal
- Epithelium of Vomer- nasal organ of jacobson
  (bilateral structures lying at the base of the nasal septum just above the nasal extremities of the incisive canal)
- Secretion of mucin from the mucous glands
- Trauma
- Bacterial infection

HISTOPATHOLOGY & TREATMENT

- Variable epithelial linings, Goblet cells
- Characteristic presence of nerves and blood vessels in fibrous capsule
- Mucous glands in capsule, Nasopalatine ducts
- Inflammation, Hyaline cartilage
- Surgical enucleation



MEDIAN PALATINE, MEDIAN ALVEOLAR CYSTS

- Questionable entities and have been excluded from WHO classification

MEDIAN MANDIBULAR CYST

- Doubtful entity
- Rare cyst in the midline of mandible
- Well defined ovoid or irregular radiolucent area and may separate roots of lower incisors
- Develops from epithelial entrapment, was an earlier hypothesis and has been negotiated as mandible develops as a single unit.

GLOBULOMAXILLARY CYST

- Found between maxillary lateral incisors and canine.
- well defined inverted pear shaped radiolucency
- causing divergence of adjacent teeth.
- Doubtful entity as there is no ectoderm to ectoderm contact except at the midpalatal raphe region.

NASOLABIAL CYST (NASOALVEOLAR, KLESTADT CYST)

- **Rare developmental cyst**
- **Pathogenesis two major theories**

1. Epithelial remnants entrapped along the line of fusion of Maxillary, Median nasal and Lateral nasal processes
2. From misplaced epithelium of the nasolacrimal duct

- Occurs outside the bone in nasolabial folds below the alae nasi
- Swelling of the upper lip lateral to the midline,
- Resulting in elevation of the ala of the nose
- Elevates the mucosa of the nasal vestibule and
- Obliterates the maxillary mucolabial fold
- Swelling, Pain, difficulty in nasal breathing

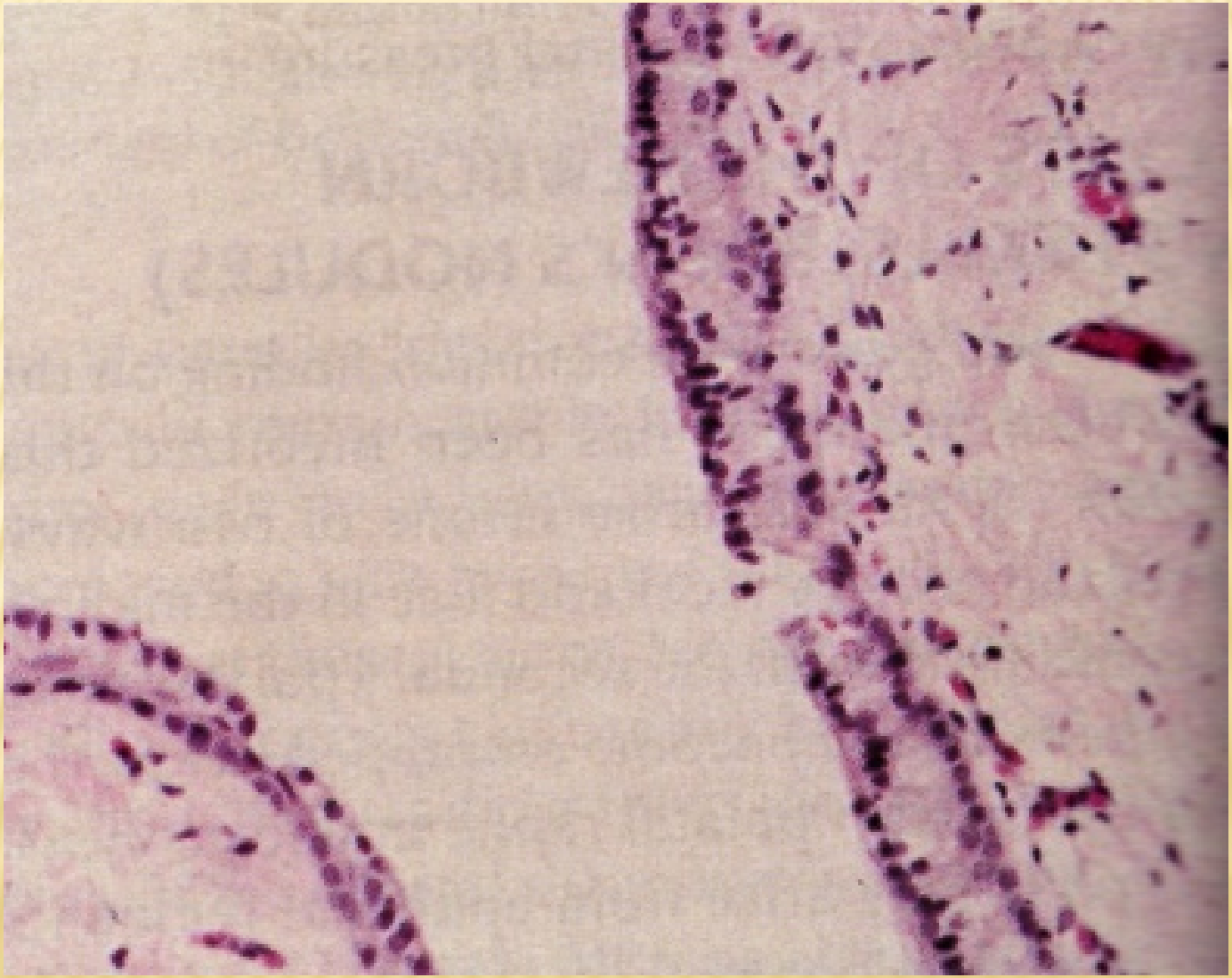
- Usually unilateral
- Slow
- Infected cysts may discharge in the nose
- 12 - 75 years with peak in 4^{th} and 5^{th} decades
- Females > Males

Histological features

- Lined by pseudostratified columnar epithelium
- Often demonstrates goblet cells and Cilia
- Cyst wall composed of fibrous CT with adjacent skeletal muscle
- Inflammation in secondary infected cyst

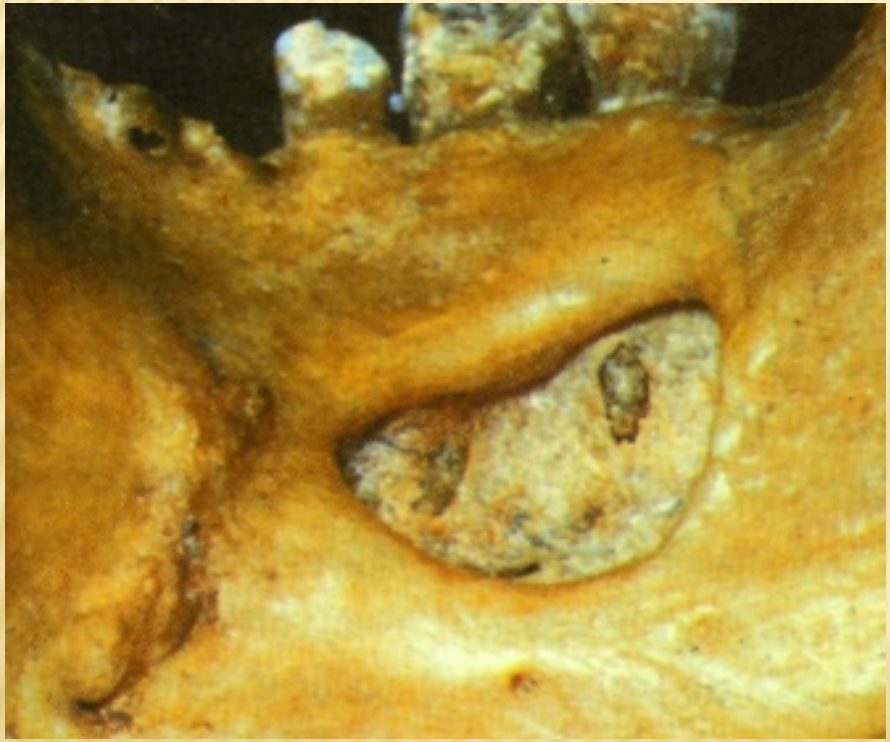
Treatment

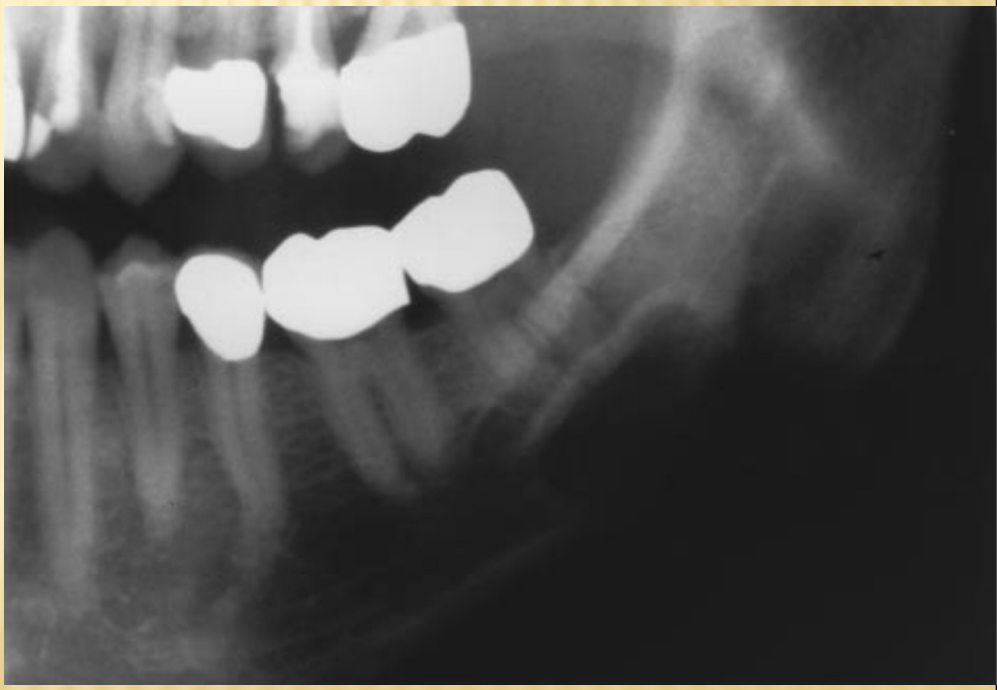
Complete surgical excision of the cyst



LINGUAL MANDIBULAR BONE DEFECT

- Stafne cavity, Static bone cavity, Latent bone cyst



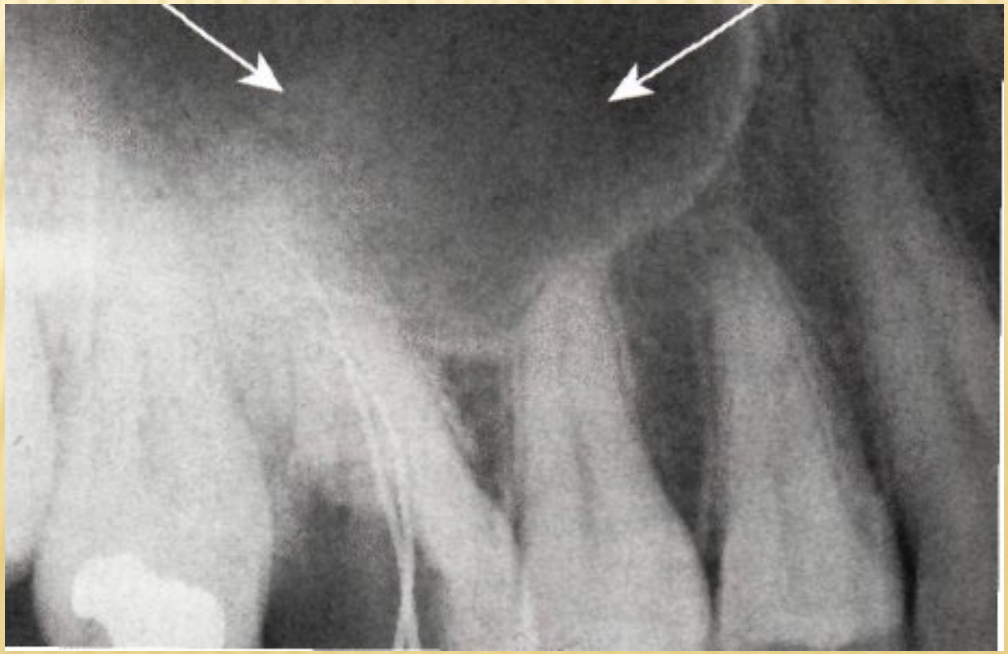


BENIGN MUCOSAL CYST OF MAXILLARY ANTRUM

- Mucocele, Retention cyst, Intramural cyst, Mesothelial cyst, Lymphangiectatic cyst
- Secretory & Non secretory type
- 3rd decade, Males > Females
- Localized dull pain in antral region
- Fullness of cheek, Nasal obstruction
- Swelling

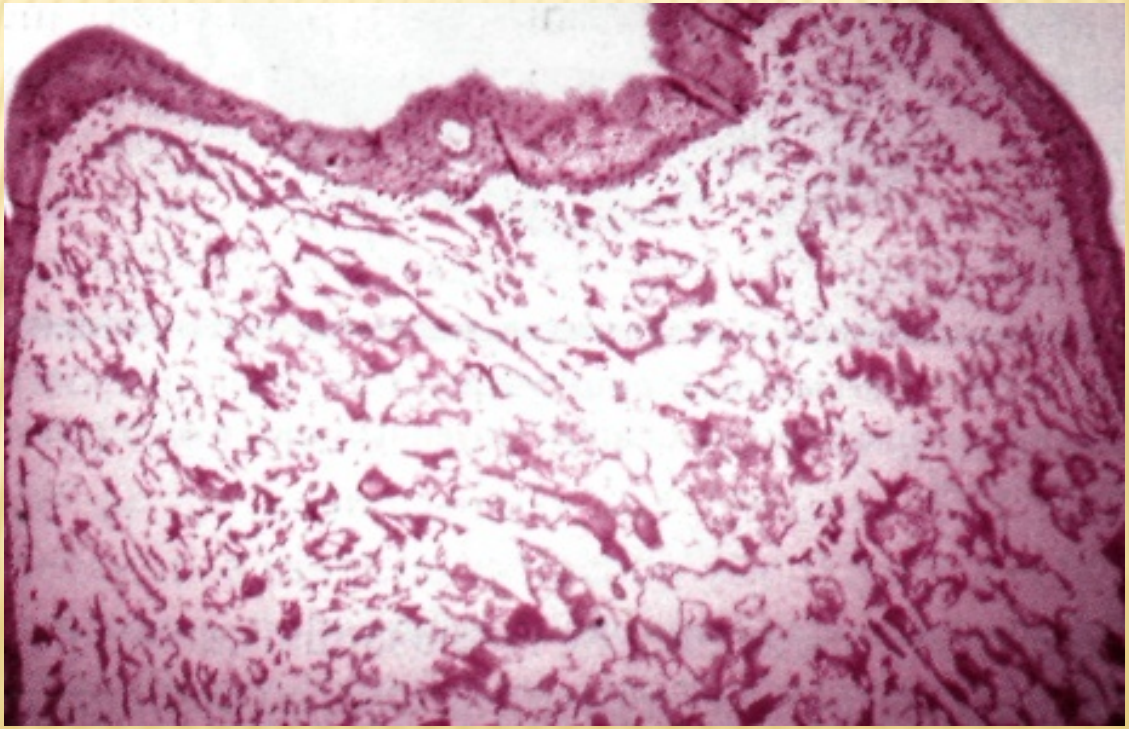
RADIOLOGICAL FEATURES & PATHOGENESIS

- Spherical, Ovoid, Dome shaped radio opacities with smooth uniform outlines.
- No resorption of surrounding bone.
- Infection from pulp and periapical areas



HISTOPATHOLOGY & TREATMENT

- Pseudostratified ciliated epithelium
- Inflammatory cell infiltration in Connective tissue
- Surgical removal



SALIVARY GLAND

- APLASIA
- HYPERPLASIA
- ATRESIA
- ABERRANCY
- STAFNES CYST

APLASIA OF SALIVARY GLAND

Congenital absence of the salivary glands both major and minor salivary gland due to complete failure of their development or genesis is called salivary gland aplasia.

APLASIA OF SALIVARY GLAND

C/F:

- Unilateral / bilateral
- Xerostomia (dryness of mouth): difficulty in taking food & have increased incidence of caries, resulting in early tooth loss.
- Oral mucosa: appear dry, smooth and areas of food accumulation.
- Cracking of the lips & fissuring at the angle of the mouth are commonly seen.

APLASIA OF SALIVARY GLAND

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Patient with congenital salivary gland aplasia will require continues dental supervision & administration of systemic & topical fluorides to prevent caries.

HYPOPLASIA OF SALIVARY GLAND

Relative underdevelopment of the salivary gland is known as **Salivary gland hypoplasia**

HYPOPLASIA OF SALIVARY GLAND

Etiology:

Due to congenital absence or
Atrophy of gland due to lack of neuromuscular stimulation.
Salivary Gland Hypoplasia is often associated with ***Melkersson-Rosenthal syndrome***

C/F:

Same as salivary gland aplasia but in less severe form

ECTOPIC SALIVARY GLAND:

The occurrence of normal salivary gland tissue in anatomically unusual locations is known as **Salivary gland ectopia**.

Ectopic salivary gland tissue may be found in the gingiva& these produce a tumor like mass, which is known as gingival salivary gland **Choriostoma**.

The ectopic salivary glands despite of various locations intraoral/extraoral, always histologically exhibit normal salivary gland lobules & ducts.

ATRESIA

- Atresia of the salivary gland excretory duct refers to congenital absence or narrowing of the duct system.

- Extremely rare condition which may produce severe xerostomia.

ACCESSORY DUCTS

•Accessory salivary ducts are relatively common developmental malformations, which can occur in relation to any gland, though it is seen more often in association with the parotids.

•The accessory parotid duct is found usually above or below the normal Stenson's duct.

•Accessory ducts of the salivary glands most often remain undetected since their presence does not produce any clinical effect in mouth.

DIVERTICULI

- Refers to small pouches or out pocketing of the ductal system of the major salivary glands. It is also predominantly found in relation to the parotid.

- Diverticuli may produce recurrent swellings and acute sialadenitis due to retention of the saliva in those areas where the pouches are present along the course of the duct.

- Diverticuli are diagnosed by sialogram.

LINGUAL MANDIBULAR SALIVARY GLAND DEPRESSION:

Stafnes bone cyst/ defect,
Static bone cyst or latent bone cyst.

It's a developmental concavity in the lingual cortex of the mandible.

C/F:

Completely asymptomatic
Almost seen exclusively in males.
Usually lower 3rd molar area.

LINGUAL MANDIBULAR SALIVARY GLAND DEPRESSION:

Differential diagnosis:

- Hemorrhagic bone cyst, this almost always lie above the Mandibular canal while the lingual Mandibular salivary gland depression lies below the canal.
- Sialography reveals that the concavities in the mandible are usually occupied by accessory lateral lobe of the submandibular salivary gland.

Thank you…..!!!