DEVELOPMENTAL DISTURBANCES

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DEVELOPMENTAL DISTURBANCES OF SALIVARY GLANDS

APLASIA (AGENESIS)

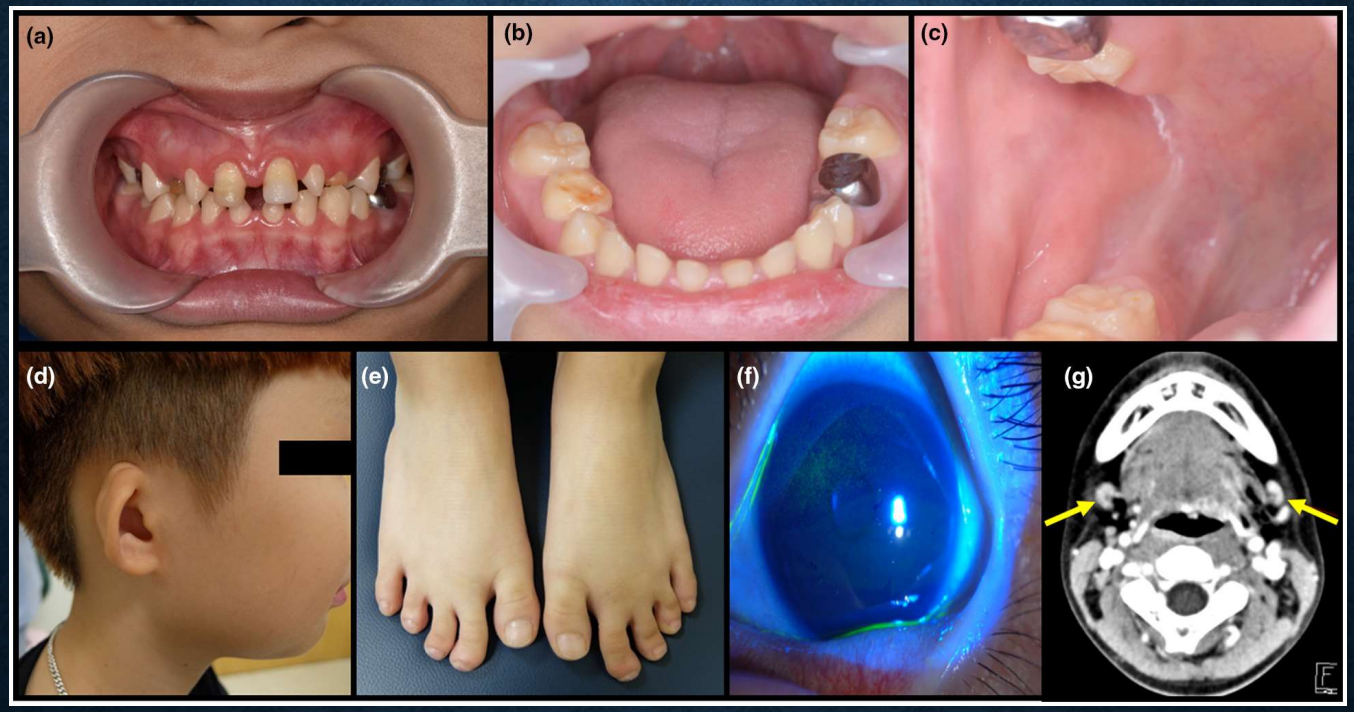
- Any one or group of salivary glands may be absent, unilaterally or bilaterally
- development of xerostomia and its sequelae
- The CT scan or MRI will indicate the gland's absence and its replacement by fat and fibrous tissue.
- Scintiscanning with a radioisotope will confirm the initial diagnosis. The absence of the salivary duct orifice/papilla is an additional clue

- Aplasia occurs for unknown reasons as an isolated finding or in conjunction with other developmental defects such as hemifacial microsomia, the LADD syndrome and mandibulofacial dysostosis (Treacher Collins).
- Salivary loss leads to increased caries, burning sensations, oral infections, taste aberrations and difficulty with denture retention

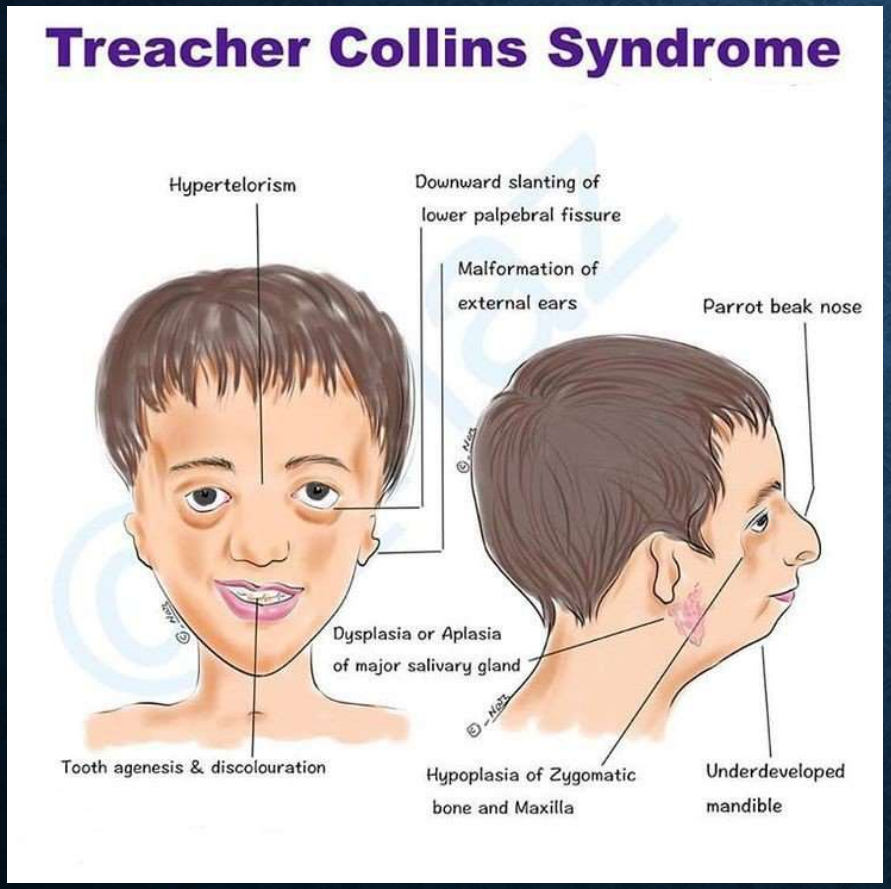
LADD

- LADD is a hereditary autosomal dominant syndrome.
- The lacrimal (L) apparatus usually demonstrates occlusion of the lacrimal puncta, nasolacrimal duct obstruction with overflow of tears (epiphora), lacrimal sac inflammation (dacrocystitis) and lacrimal gland aplasia.
- The auricles (A) are deformed with the ear having a cup-shaped appearance. There is some hearing loss.
- Dentally (D), peg-shaped teeth, hypodontia, and 168 enamel hypoplasia are noted. Various combinations of salivary gland agenesis, with varying degrees of xerostomia, are present.
- Digital (D) deformities are manifested by deviation of the fingers medially or laterally (clinodactyly).

LADD



TREACHER COLLINS SYNDROME



TREATMENT

- Treatment is supportive and directed at relieving xerostomia and its effects.
- Salivary substitutes, frequent mouth washes, comprehensive dental care, fluoride therapy, and good oral hygiene

XEROSTOMIA (DRY MOUTH)

- not a disease but can be a symptom of certain diseases.
- serious negative effects on the patient's quality of life, affecting dietary habits, nutritional status, speech, taste, tolerance to dental prosthesis and increased susceptibility to dental caries

ETIOLOGY

- Xerotomia classified as temporary or permanent

Temporary Causes:

- Psychological

Anxiety and depression are well recognized as causes of reduced salivary flow.

Psychological problems are often treated with drugs, which may be salivary inhibitors

Duct calculi

- blockage of the duct of a major salivary gland, commonly the submandibular
- dryness on the affected side, together with pain and swelling in the gland, especially on stimulation.
- If untreated, the obstruction may lead to progressive fibrosis of the gland and permanent xerostomia.

Sialoadenitis

- Inflammation of the salivary glands
- Acute infections -mumps and postoperative parotitis
- Chronic conditions -nutritional deficiency and hypersensitivity to iodine.
- Intermittent swelling of the salivary glands - idiopathic and described as 'chronic nonspecific sialadenitis' and may be associated with duct calculi.

DRUG THERAPY

- Anticholinergic and sympathomimetic agents- tricyclic antidepressants, bronchodilators and antihistamines.
- Diuresis produced by drugs or alcohol can result in dehydration and xerostomia.
- Zyban- a drug to aid smoking cessation can also cause xerostomia

PERMANENT CAUSES

Salivary gland aplasia

- Congenital absence of one or more of the major salivary glands

Sjögren's syndrome:

- combination of dry mouth, dry eyes, and often rheumatoid arthritis
- mainly affects women over 40 years of age
- often accompanied by a mild fever.
- About half of the patients with this syndrome also present with swellings of the major salivary glands

Table 1

Symptoms of Sjögren's Syndrome

PRIMARY SYMPTOMS

Dry eye
Gritty, sandy feeling
Stinging feeling

Dry mouth
Dry, cracked tongue
Sore throat
Burning throat
Difficulty talking
Difficulty swallowing
Difficulty chewing dry food
Change in sense of taste/smell
Increase in cavities
Mouth sores
Cracked lips

OTHER SYMPTOMS

Swollen parotid glands
Nausea
Dry skin
Joint pain
Dry nose
Reflux
Muscle pain
Fatigue
Muscle weakness
Low-grade fever
Vaginal dryness
Neuropathy
Dizziness

OTHER SYSTEMIC DISORDERS

Xerostomia is associated with

- diabetes mellitus, probably as a consequence of polyurea
- Parkinson's disease
- cystic fibrosis
- sarcoidosis.
- vitamin A, riboflavin and nicotinic acid deficiencies
- anemia.

Radiotherapy

- therapeutic radiography for head and neck tumors.
- partly due to a reduction in the vascularity of the gland and partly to the direct effect of the X-rays on the highly specialized and sensitive secretory epithelial cells.
- Radiation does not appear to damage the teeth or periodontal tissues directly, the effect on the dentition resulting solely from the reduction in salivary flow. (Radiation caries)

Surgical desalivation

- Surgery or physical trauma to the salivary gland duct may result in damage to the gland, duct, blood or nerve supply and impair secretion

CLINICAL FEATURES

- Unilateral dryness with pain or discomfort and swelling in the affected gland on stimulation - an indication of a duct calculus
- Sjögren's syndrome - bilateral swelling, often constant and accompanied by the other symptoms of the syndrome, and in many cases lymph node enlargement.
- A punch biopsy of labial glands and by serological tests may be needed to confirm the diagnosis

- The mucosa will appear dry and atrophic, sometimes inflamed or, more often, pale and translucent.
- The tongue may manifest the deficiency by atrophy of the papillae, inflammation, fissuring, and cracking and in severe cases by areas of denudation.
- Soreness, burning, and pain of the mucous membrane and tongue are common symptoms

CLINICAL SIGNIFICANCE

- chronic xerostomia predisposes to rampant dental caries and subsequent loss of teeth.
- Moreover, patients with xerostomia have difficulty with artificial dentures.
- Dental appliances are extremely uncomfortable against dry mucosa

TREATMENT

- To eliminate or address any etiological factors such as drugs, calculi and emotional problems
- Promote salivary stimulation by using sugar-free chewing gum
- Salivary substitutes
- Regular review to monitor the condition of teeth, gingivae and mucosa

HYPERPLASIA OF PALATAL GLANDS

- the following have been reported to result in salivary gland enlargement:

(1) endocrine disorders,

(2) gout,

(3) diabetes mellitus,

(4) menopause,

(5) hepatic disease,

(6) starvation,

(7) alcoholism,

(8) Sjögren's syndrome

CLINICAL FEATURES

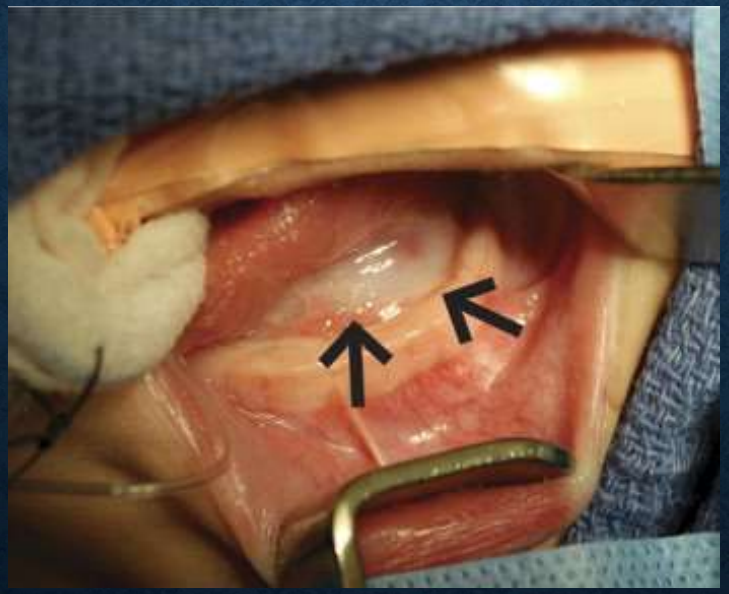
- presents as a small localized swelling, measuring from several millimeters to 1 cm or more
- usually on the hard palate or at the junction of the hard and soft palates.
- intact surface and is firm, sessile, and normal in color.
- It is usually asymptomatic.

TREATMENT

- hyperplasia of palatal glands cannot be differentiated clinically from a small salivary gland neoplasm in this area, it is essential that they be excised for microscopic examination.
- No further treatment is necessary and the condition is not reported to recur.

ATRESIA

- Congenital occlusion or absence of one or more of the major salivary gland ducts
- may result in the formation of a retention cyst or produce a relatively severe xerostomia



ABERRANCY

- Glands are found farther than normal from their usual location.
- There is no clinical significance to be attached to aberrant salivary glands other than that they may be the site of development of a retention cyst or neoplasm.

DEVELOPMENTAL LINGUAL MANDIBULAR SALIVARY GLAND DEPRESSION

Also known as

- Static bone cavity or defect of the mandible,
- lingual mandibular bone cavity,
- static bone cyst,
- latent bone cyst,
- Stafne cyst or defect

- An unusual form of slightly aberrant salivary gland tissue
- A developmental inclusion of glandular tissue is found within or, more commonly, adjacent to the lingual surface of the body of the mandible within a deep and well-circumscribed depression.
- First recognized by Stafne in 1942, hence the eponym.
- incidence of occurrence has been reported as 0.1–1.3%

- Radiographically, the lesion usually appears as an ovoid radiolucency located between the inferior alveolar canal and the inferior border of the mandible in the region of the second or third molars

ANTERIOR LINGUAL DEPRESSION

- a similar asymptomatic round or ovoid radiolucency may occur in the anterior segment of the mandible
- generally appearing as a poorly circumscribed lesion between the central incisor and the first premolar area.
- might represent either anatomic variants related to the digastric or sublingual fossa or developmental anomalies caused by impingement of the sublingual gland.

- Complications : development of a true central salivary gland neoplasm from the included salivary gland tissue, but this is rare.

Treatment:

- benign developmental anomalies that normally do not require any treatment.
- periodically observing them radiographically- detect potential complications. Clinical or radiographic changes may indicate the need for further investigation.


ANY
QUESTIONS
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