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*HISTOLOGY ASSIGNMENT*

**TOPIC:**

**CLINICAL CONSIDERATION OF SALIVARY GLAND**

**SALIVARY GLAND:**

The salivary glands in mammals are exocrine glands that produce saliva through a system of ducts.

Humans have three paired major salivary glands (parotid, submandibular, and sublingual) as well as hundreds of minor salivary glands.

**FUNCTION:**

* The salivary glands produce saliva, which keeps the mouth and other parts of the digestive system moist.
* It also helps break down carbohydrate and lubricates the passage of food down from the oro-pharynx to the esophagus to the stomach

**CLINICAL CONSIDERATION:**

Careful examination of a patient’s medical history and profile can lend clues to dysfunction of the salivary glands because they are often associated with other systemic disorders such as hormonal imbalances, diabetes mellitus, arteriosclerosis, and neurological disorders.

Following are the clinical consideration:

* Age changes
* Disease
* Structural condition
* Functional condition

1. **AGE CHANGES:**

* Generalized loss of parenchymal tissue
* Increase in fibrous connective tissue
* Decrease in production of saliva
* Lost salivary cells often replaced by adipose cells
* Gradual reduction in proportional acinar volume in major salivary glands

1. **DISEASE:**

Affected by local, systemic disease( endocrine, autoimmune, infectious disease)

* **ENDOCRINE:**
* **Diabetes:**

Parotid gland swelling may occur.

Salivary flow is reduced.

Changes in salivary protein.

* **AUTOIMMUNE:**
* May cause destruction of salivary gland and reduced salivary flow
* **INFECTIOUS:**
* **Sialadenitis:** inflammation of salivary gland due to viral, bacterial infection or allergic reaction. It may be acute or chronic. Painful swelling
* **RADIATION CARIES:**
* Radiation caries is a rampant form of dental decay that may occur in individuals who receive a course of radiotherapy that include exposure of salivary glands.
* **CAUSES:**
* Carious lesions are produced due to the exposure of salivary glands
* reduced flow of saliva
* decreased Ph
* decreased buffering capacity
* increased viscosity.
* **SIGN:**
* Superficial lesions (abnormal change in structure) attack the buccal, occlusal, incisal, and lingual surfaces.
* It includes cementum and dentin in cervical lesions.
* Lesions progress around the teeth circumferentially and resulting in loss of the crown.
* **SJOGERNS SYNDROME:**
* It attacks the glands that make tears and saliva. This causes a dry mouth and dry eyes.
* It consists of keratoconjunctivitis (inflammation of cornea and conjunctiva), and rheumatoid arthritis (inflammation of joint). The cause of the disease can be genetic, auto immunological, etc.
* **Features include** dry mouth and dry eyes due to hypo function of lacrimal and salivary glands. Most patients are treated symptomatically; ocular lubricants and salivary substitutes are given.
* **CAUSES:**
* Blockage of minor salivary gland.
* Commonly submandibular gland is blocked.\
* Can produce dryness, along pain and swelling in the gland.
* If untreated may cause permanent xerostomia.
* **SIGNS:**
* Saliva pool disappears
* Mucosa becomes dry
* Tongue shows glossitis (inflammation of tongue) and fissured with papilla atrophy
* Angular cheilitis (red, swollen patches in the corners of mouth)
* Rampant caries at the cervical or cusp tip
* Periodontitis
* Candidiasis (fungal infection)

1. **DEVELOPMENTAL MALFORMATION:**

* **APLASIA:**

Is the congenital absence of salivary glands. Usually the term relates to the absence of some or all of the major salivary glands. Patients with salivary gland aplasia typically require regular application of topical fluoride to prevent tooth decay.

* **ATRESIA:**

A congenital blockage or absence of the orifice of a major salivary gland duct or part of the duct itself. It is a very rare condition. The submandibular salivary gland duct is usually involved, having failed to cannulate during embryological development

* **STAFNNES CYST:**

A static bone cavity of the mandible, or lingual salivary gland inclusion defect, are cortical defects near the angle of the mandible below the mandibular canal.

* **FORDYCE’S GRANULE:**

They are ectopic sebaceous glands characterized by yellowish-white papular lesions scattered throughout the oral mucous membrane, but more common in the buccal mucosa.

1. **FUNCTIONAL CONDITION:**

**Xerostomia** (dry mouth), **Sialorrhea** (increase salivary flow), both could result from dysfunction of the madullary salivary center, autonomic innervations to the glands, damage to the gland itself, or imbalances in fluid and electrolyte

1. **XEROSTOMIA:**

* A condition in which the salivary glands in your mouth don't make enough saliva to keep your mouth wet.
* Difficulty and pain in eating, speech and swallowing.
* Loss of protective effect of salivary buffers, protein, and mucins increased susceptibility to infections.
* Dry mouth is often due to the side effect of certain medications or aging issues or as a result of radiation therapy for cancer.

1. **SIALORRHEA:**

* Drooling or excessive salivation.
* Stimulation of parasympathetic cause profuse secretion of saliva.
* Occur with various neurologic disorder.
* Heavy metal poisoning.
* Drugs induced as anti pshycotic.
* Gastroesophagelreflux**.**

1. **BLOCKAGE OF DUCT:**

* Sialolith (stone): mostly in submandibular gland
* Mucous plugging in minor salivary glands due to trauma.

**OTHER CONDITION:**

1. **PAROTID GLAND**

* Because of fibrous fascia is covering the parotid, its inflammatory swelling is tense and hard.
* Parotid duct is slightly larger along their course than at their caruncle.
* This permits storage of secretions so that a ready flow may be available on stimulation without waiting for secretary process.
* This relatively static reservoir may form obstructions and are a ready nidus for bacterial activity.
* The close association of the facial nerve with the gland is very important consideration, during surgical procedures.

1. **SUBMANDIBULAR GLAND**

* The entire submandibular gland and duct system lies in a dependent position, which predisposes it to retrograde invasion by oral flora.
* Similar to the parotid duct, the Wharton's duct is also wider before reaching the papilla. This can lead to sangulation of saliva and organic matter.
* The sharp bends of Wharton's duct at the posterior border of the myohyoid muscle allows stasis of the saliva favoring the formation of salivary stones.

1. **SUBLINGUAL GAND**

* The sublingual gland and the minor salivary glands have short ducts, where the chances of stasis are less.
* Thus obstructive lesions do not occur in the glands.
* Since minor salivary glands are placed superficially, the traumatic lesions such as mucoceles commonly effect these glands.