

Fissural cyst of oral facial region- overview

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Abstract:

Cyst are the most common in orofacial region, usually they grow slowly and they are usually asymptomatic. Cyst are classified into odontogenic which means arising from tooth forming tissues, non odontogenic which means developmental or Fissural. They are grounded into developmental and inflammatory cyst.

Key words: Non developmental ,Histopathology

I. Introduction :

Cyst is a common pathological lesion and occurs any where in the body. It's defined as a pathological cavity, may or may not be lined by epithelium and containing fluid, semisolid or gaseous material. Cysts are more common in the orofacial region and are the most common cause for chronic jaw swellings. Usually they grow slowly and are generally asymptomatic.(1,2)

Cyst type in oral facial region

Odontogenic cyst Non- odontogenic cyst

Odontogenic cyst :

The odontogenic cysts are derived from epithelium associated with the development of the dental apparatus. The type of epithelium can vary with most lesions having stratified squamous but some developmental or fissural cysts in the maxilla may have respiratory epithelium. Several types of odontogenic cysts may occur, depending chiefly upon the stages of odontogenesis during which they originate.(1,2)

Non- Odontogenic cyst :

Non-odontogenic cysts arise from tissue not involved in tooth formation. While uncommon, these lesions can be encountered by many health professionals. This activity outlines and reviews the evaluation and management of non-odontogenic cysts and highlights the part of the interdisciplinary team in evaluating and treating patients with these conditions. Other types of cysts in the orofacial region not essentially derived or related to the odontogenic apparatus are called nonodontogenic cysts. They're grouped into developmental and inflammatory cysts. While all the developmentnonodontogenic cysts are true cysts. pathologic cavities lined by epithelium, usually containing fluid or semisolid material. few of the inflammatory genic cysts are pseudo cysts

lesions arise from then non odontogenic(non-tooth forming) tissue. Cysts within the oral cavity vary in their clinical appearance, incidence, histology, behavior, and management. (3,4).

Classification of developmental odontogenic cyst : INTRAOSSEOUS

Nasopalatine duct cyst Median palatine cyst. Globulomaxillary cyst Median mandibular cyst.

EXTRAOSSEOUS

Nasolabial cyst. palatal cyst of newborn(Epstein's nodules) Thyroglossal cyst. Oral lymphoepithelial cyst. Epidermoid cyst Dermoid cyst. (1,2)



Nasopalatine duct cyst :



The nasopalatine duct cyst is the common on-odontogenic cyst in the oral region and it's originate from the epithelial remnants of the Nasopalatine duct. The cyst is situated in or near the incisive canals and behind the maxillary central incisors nasopalatine duct. (5,6)

Etiology:

Trauma in the form of a direct blow to the incisive canal indirectly from mastication particularly when illfitting dentures are involved has been suggested. Most commonly found in male Bacterial infection, either from the nasalcavity or from the oral cavity, stimulating the epithelial remnants to proliferate. Pigmented linings of nasopalatine duct cysts suggestive of degenerated olfactory neurons the nasopalatine duct cyst originates from the epithelium of the vomeronasal organs. (7)

Clinical features :

The nasopalatine duct cyst is usually asymptomatic cyst and as a consequence a coincidental detection on radiographs is often the only indication of cystic development. the cyst manifests itself by a swelling, mostly in anterior region.

Histopathology:

The type of cystic epithelium is dependent upon the proximity of the lesion The most superiorly located cysts are lined with a respiratory epithelium while those in an inferior position, close to the oral cavity Found a mitotic value of 2.3 per 10 mm of basement membrane in nasopalatine duct cysts. the presence of sebaceous glands has been reported only once", Hyaline cartilage which can be explained as metaplasia in inflamed towel and reactive bone formation





Treated with enucleation via a buccal or palatal approach (1,2)

Median palatine cyst:



6The median palatine cyst is thought to originate from the epithelial remnants which are included during the closure of the secondary palate. cystic formation and may be a competent source of fissural cysts of the palatal midline. Though midpalatal cysts can frequently be seen in fetuses they usually disappear in late fetal life or postnatally because the cyst structures come into communication with the surface mucosa. formed between the bone and the mucosal surface of the palate may be a part this process(8)

Histopathologic features :

The lining of cyst consist of stratified squamous epithelium overlying a relatively dense fibrous connective tissue band which may show chronic inflammatory cell infiltration.(9)







Treatment for Fissural cyst is surgical and curettage(1,2)

Globulomaxillary cyst:



the Globulomaxillary cyst was considered to be an inclusion or developmental cyst. nonodontogenic epithelium in the globulomaxillary suture. which occurred at the junction of the globular portion of the medial nasal process and the maxillary process. The cyst was usually asymptomatic. The globulomaxillary cyst sometimes occurred bilaterally.(10)

Histopathological:

terpretation that all cysts in this region are actually of odontogenic origin Given the complexity of developmental events that occur in this area certainly reasonable to maintain that not all cysts arise from remnants of the nasal fin. nasal fin is formed from epithelium.





This type of cyst should be surgically removed and preserving adjacent teeth if possible (1,2)

Median mandibular cyst :



median mandibular cyst as a pathologic entity although obviously cysts do occur in the midline of the mandible, just as they do throughout the rest of the jaws. The reason that would justify the continued recognition of the median mandibular cyst as a "fissural cyst " would be evidence that epithelium could become entrapped in the midline of the mandible during fusion of the two halves of the mandibular arch during embryogenesis. This core is shaped like a dumbbell in shape that it consists of

two centers of mesenchymal proliferation with an isthmus of mesenchyme between them.(11,12)

Histopathologic features :

Lesion shows a thin, stratified squamous epithelium, often with many folds and projection, lining a central lumen. In some case, it is lined by pseudostratified ciliated columnar epithelium. (13,14)





Surgical excision with preservation of associated teeth(1,2)

Nasolabial cysts :

Nasolabial cysts are uncommon nonodontogenic soft- tissue lesions of the nasal vestibule, canine fossa, and sublabial region. Nasolabial cysts are rare cystic lesions situated close

Etiopathology:

to the alar cartilage of the nose, extending to the lower nasal meatus, the upper gingivolabial sulcus, and the floor of the nasal cavity near the vestibule. The nasolabial cyst causes painless swelling at the sublabial fold, lips, and face and causes the nasal block. diagnosis and treatment of the nasolabial cyst should be done in early stage as these lesions manifest cosmetic deformity and rarely becomes large. most common in black women(15,16)



The exact pathogenesis of the nasolabial cyst isn't fully understood. The origin of the nasolabial cyst is thought to be developmental. (17,18).

Clinical Manifestations:

the nasolabial cysts are typical in location and clinical presentations. Although the nasolabial cysts are developmental in origin, they don't manifest themselves until adult age. The nasolabial cyst is more common in women and the left side and is less frequently seen on both sides. (19)

Histopathologic feature :

It is lined by pseudostratified columnar epithelium which is sometimes ciliated with goblet cells or stratified squamous epithelium.(20)





The cyst should be surgically excised, although care must be exercised to prevent perforation and collapse of the lesion.(1,2)

Palatal cyst of newborn baby (Epstein nodules in Newborn):

In 1880, Alois Epstein discovered Epstein's pearls They are palatal cysts that are seen in the median palatal raphe at the junction of the hard and soft palate which are caused by entrapped epithelium during palatal fusion. They are smooth, whitish, keratin-filled 1-4 mm papules. There are common in male newborn babies Epstein's pearls resolve in the first 3 months hence treatment is not needed . (21,22,23).

Epidemiology :

Epstein pearls are observed in nearly 60% to 85% of newborn infants. Japanese newborns are commonly affected followed by whites and African-Americans. Two other studies reveal Epstein pearls are observed in approximately 80% of newborn infants and are more common in Caucasian infants .(24,25)



Histopathologic features:

Palatal cyst of newborn show a thin ,stratified squamous epithelium cyst lining with a routine fibrovascular connective tissue stroma. The cystic lumen is filled with degenerated keratin, usually formed into concentric layers and epithelium lacks rete process (26,27).





No treatment is required for this lehision. (1,2)

Thyroglossal cyst :

thyroglossal duct cysts (TGDC) are the most common non-odontogenic cysts of the neck and the

most common midline neck masses. The exact incidence of TGDC is unclear, but its incidence appears to be equal in both genders and is presumed to be higher in children than adults .he clinical presentation of TGDC in children has been very well described (28,29,30)



Histopathological features :

The Thyroglossal cyst may lined by stratified squamous epithelium, ciliated columnar epithelium or intermediate transition type, originate from

embryonic pharyngeal. The connective tissue wall of the cyst have patches of lymphoid tissue, thyroid tissue and mucous gland in associated with Thyroglossal duct like structure. (31,32,33)





Surgical management requires excision not only of the cyst but also the path tract and branches(1,2).

Oral lymphoepithelial cyst :

The oral lymphoepithelial cyst (LEC) is an uncommon developmental lesion that is frequently an incidental finding during a routine dental examination. An example of a symptomatic oral LEC in the floor of the mouth in young child is described. The distinguishing features of this oral cyst are compared with other yellowish-white submucosa nodules that occur in this age group.(34,35)

Clinical features :

Based on the clinical appearance, minimal growth and lack of significant ductal obstruction, this submucosal nodule is most consistent with an oral LEC. The etiopathogenesis of this cysticlesion is either developmental or reactive in nature . Entrapment of the surface or ductal epithelium during embryogenesis within a lymphoid aggregate is thought to be the primary cause for this lesion. (36,37,38)



Histopathologic feature :

It is lined by atrophic and degenerated stratified squamous epithelium, lacking of rete process and demonstrate a granular cell. Orthokeratin is seen. The cyst is entrapped within a well aggregate of mature lymphocyte.(39,40)



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Treatment :

No treatment is usually required for oral lymphoepithelial cyst(1,2).

Epidermoid cyst :

Epidermoid cysts are developmental cysts that occur in the head and neck with an incidence ranging from



ig. 1. Clinical photograph showing welling around the right eyelid.



Fig. 2. Excised specimen of the lesion.

1.6% to 6.9% .They represent less than 0.01% of all cysts of the oral cavity. An epidermal cyst is derived from epidermis, and is formed by cystic enclosure of epithelium within the dermis that becomes filled with keratin and lipid-rich debris. epidermoid . We here report cases of epidermoid cyst arising in the head and neck region.(41,42,43)



Fig. 3. Cut gross specimen revealed cheesy material.



Histopathologically :



Epidermoid cysts are lined by keratinized epidermis with occasional areas of pseudostratified ciliated columnar epithelium, but cysts of floor of mouth may be predominantly have secretory epithelium of salivary duct origin. Dermoid cysts in addition have one or more dermal appendages like hair follicle, sweat glands or sebaceous glands in the connective tissue wall. Lumen is usually filled with keratin. Intracranial, intraspinal, or intra-abdominal. Demonstrating a soft tissue orbital epidermoid cyst arising from the lacrimal gland. An eyelid epidermoid cyst attached to a tarsus may be evident as a firmly adherent nontender upper-eyelid nodule .(44,45,46).

Treatment :

Surgical removal Is treatment for Epidermoid cyst Malignancies have been identified in Epidermoid cyst.(1,2



Dermoid cyst:

Dermoid cysts of the floor of the mouth have been fairly well documented for over 65 years and continue to be reported as being rare. Terminology and nomenclature has been frequently confusing, and multiple theories exist with respect to the pathogenesis of these cysts. Several diagnostic techniques have been suggested over recent years, and a diversity of opinion remains on the - recommended surgical approach relationship to cyst location. (47,48,49,50)



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CLINICAL FINDINGS

Clinically, the cyst is slow growing and painless. It is soft, well-encapsulated, and without associated lymphadenopathy. hyoid and geniohyoid muscles is thought to influence the clinical presentation, although large cysts that perforate the mylohyoid are often clinically evident both in the sublingual an7d submental spaces and can appear as two cysts or dumbbell shaped .welling so large that mastication, articulation, and deglutition are difficult. The mass usually has a dough like quality to palpation from the caseous contents. The differential diagnosis includes ranula, blockage of submandibular gland duct, neoplasm of the sublingual or minor salivary glands, thyroglossal duct cyst, cystic hygroma, acute infection, benign or malignant .(51,52,53)





Histologic features:



In contrast to Epidermal cyst, dermoid cyst in the skin lined by epidermis that possesses various epidermal appendages. It is fully mature. Hair follicle containing hairs that project into lumen of the cyst. The lining epithelium may proliferate as papillary boundaries extend externally or inward towards the lumen of the cyst. This proliferation may have some superficial resembles to Epidermoid carcinoma proliferation , growth may be misdiagnosed as a cancer. (54,55,56)

Treatment :

Surgical excision is a treatment is a choice for Dermoid cyst .(1,2)



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