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SOFT TISSUE LESION OF OROFACIAL REGION: OUR EXPERIENCE

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ABSTRACT

Oral cavity which represents the first part of the human digestive system is housed by innumerable microorganisms. It is subjected to be under constant wear and tear of the tissues and is also vulnerable to various infections, lesions and tumors. This article represents some of the most common benign soft tissue lesion in the oro-facial region. It also signifies the importance of possible early diagnosis and management either conservatively or by surgical removal of the lesion.

INTRODUCTION

Oral cavity is vulnerable to many types of epithelial, mesenchymal, salivary and haematolymphoid tumors. These tumors can either originate from the epithelial tissue, connective tissue, muscle tissue, and the nervous tissues. Fibroma, papilloma, granular cell tumour, lipoma, pleomorphic adenoma, haemangioma and neurofibroma are some of the oral benign tumours. Fibromas are the common reactive lesions inthe oral cavity. The epithelial precursors in the oral cavity usually present as leucoplakia, erythroplakia or mixed lesions that may undergo malignant transformation. Majority of the malignant oral cancers are of squamous cell type. Many of the benign tumours of oral cavity may exhibit similarities in clinical and radiographic characteristics and may resemble malignant lesions. Clinicians and dental surgeons should have a perceived knowledge of clinical and demographic characteristics which are associated with these versatile benign oral tumours. Histopathological analysis is an important tool to establish a definitive diagnosis.

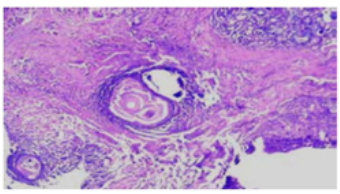
The treatment usually involves the surgical removal of the lesion. To differentiate these soft tissue tumours, once must have an insight knowledge about the incidence, mode of occurrence, its location with confirmatory histological examination obtained after biopsy. The approach to effective management of these tumors has been presented.

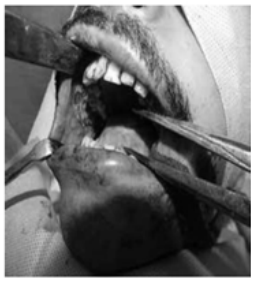
CASE DISCUSSION

AN UNUSUAL CASE OF LARGE SUBMANDIBULAR EPIDERMOID CYST

Meyer[7] in 1955, described the three histological types of dermoid cyst i.e. true dermoid cyst, epidermoid cyst and teratoidcyst. Dermoid cysts which is lined by keratinized epithelium contain skin adnexa, while epidermoid cyst on the other hand are only lined by simple squamous epithelium. Teratoid cyst contain dermoid material plus tissues of other embryonal sources e.g., ciliary respiratory epithelium, gastrointestinal tissues, muscles etc. Epidermoid cyst are benign cystic lesion which occurs by entrapment of epidermal tissues without adnexa appendages. The incidence of the lesion in the orofacial region accounts for 0.01%. It is usually asymptomatic but can present itself acutely if secondarily infected or grows over time to attain large sizes and cause significant anatomical disfigurement and systemic complications as well. Complete enucleation of the cyst is the choice of treatment.

A case of left submandibular epidermoid cyst was reported in our department which was managed by enucleation along removal of the submandibular gland.





ANOTHER CASE OF MULTIPLE MICRO EPIDERMOID CYST:

A 35-year-old male reported to our department with the chief complaint of reduced, mouth opening and burning sensation on consumption of spicy foods for more than a year. Personal history revealed habit of chewing pan-masala (areca nuts), 7-8 pouches per day for the last 15 yrs. On detailed intra-oral examination, rigid fibrous bands were palpated bilaterally over the buccal mucosa. Mucosa over the upper-lower lips, corner of the mouth, soft-palate, retromolar area and along the tonsillar fauces were significantly blanched. Inter-incisal distance was reduced to 5mm. (stage 4), Mobility of the tongue was normal.

Two samples each containing small piece of buccal mucosa was incised from each side and sent for histopathological examination followed by Bilateral fibrous band resection and reconstruction with buccal fat pad under local anaesthesia.

Histopathological examination of both the samples showed fibro-collagenous tissue stroma with area of collagen deposition and hyalinization and multiple foci of entrapped squamous cell epithelium filled with keratinous material in the lumen. Foci of intact lobules of minor salivary glands were also seen. The finding was consistent with Submucous fibrosis with multiple epidermal inclusion cyst.

A CASE OF PLEOMORPHIC ADENOMA

Pleomorphic adenoma (PA) is the most common salivary gland tumour that constitutes about two-third of all mixed tumour of salivary gland. It predominantly occurs in the parotid gland (85%) minor salivary gland (10%) and the submandibularglands (5%). Occurrence in the minorsalivary gland of palate, lipcheek, tongue and the floor of the mouth are also reported. Wide excision with good safety margins renders asuccessful treatment keeping in account to preserve the branches of facial nerve. Recurrence is rare intotal parotidectomy compared to enucleation and superficial parotidectomy.

A 19 years old male patient came to our department with a slow nodular growth and painless swelling on the left side of face in the last 3 years. Contrast enhanced computed tomography(CECT) revealed a large, well-encapsulated, heterogeneously enhancing soft tissue attenuation lesion measuring approx. 4.4x4 x3cms, over the left parotid region. The mass was seen to involve only the superficial lobe of the gland.

Palpatory findings revealed a firm, non-tender and warm swelling which was fixed to the underlying structure while the overlying skin was free. Intraoral examination was unremarkable. FNAC report was suggestive of PA of the parotid gland.

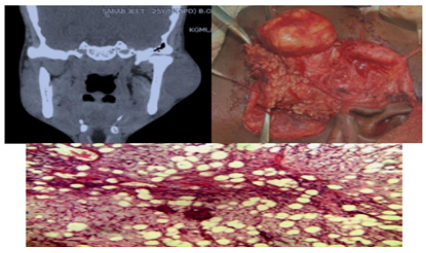


Fig: (a) pre-op CT showing a well encapsulated mass (b) showing the tumor mass with branches of the facial nerve (c) Histological examination showing a chondo-myxoid stroma.

The patient underwent superficial parotidectomy under general anaesthesia after obtaining a written consent. Modified Blair approach was employed to approach the tumour. The peripheral facial nerve branches were identified and preserved. A careful dissection allowed complete separation of the superficial lobe from the underlying deep lobe and the facial nerve after which it was later excised along with the tumour in toto.

[4]Histopathological examination shows a highly cellular mass interspersed with epithelial and myoepithelial cells containing eosinophilic cytoplasm. Mucoid material between the tumour cells imparted amyxomatous background. Chondroid and ductal areas along with fat were also seen.

A CASE OF HAEMANGIOMA

Haemangioma is a swelling that occurs due to congenital malformation of blood vessels. Currently, haemangiomas are [5]considered to be benign tumor of infancy that are characterized by a rapid growth phase with endothelial cell proliferation, followed by gradual involution.

[6]The most common location is the head and neck, which accounts for 60 % of all cases. Eighty percent of haemangiomas occur as single lesions, but 20% of affected patients will have multiple tumors. Superficial tumors of the [7]skin appear raised and bosselated with a bright- red colour(strawberry haemangioma) which exhibit signs of compressibility while deeper tumors may appear only slightly raised with a bluish hue.

Management of haemangioma include conservative treatment with sclerosing agents while larger haemangiomas should be excised only after preliminary sclerotherapy.

A young female came to our department with a chief complaint of a painless and asymptomatic swelling, in the floor of mouth and left sub mental region. Palpatory finding reveals that the swelling was non-tender and soft in consistency. [8]Investigations such as fine-needle aspiration cytology and magnetic resonance imaging (MRI) were done.

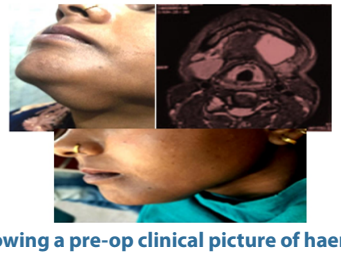


Figure (a) showing a pre-op clinical picture of haemangioma in the submandibular region (b) MRI showing a vascular mass displacing anterior belly of digastric and mylohyoid (c) Post-treatment result showing complete resolution of the lesion with sodium tetradecyl sulphate.

[9]A conservative treatment approach was planned with an intralesional injection with inj. Setrol (STS). Injections were given as infiltration at the intralesional site extra orally at the submental swelling sites at a 2–3 weeks interval. The total number of injections given was 4 times. Also, supplementary medications, Tab. Tranexamic acid 500mg twice daily for 3 days for haemostasis control and Tab.Combiflam (ibuprofen + paracetamol) thrice daily for 5 days as anti-inflammatory agent, were given during the treatment. A case was follow-up and a good result was found with complete resolution of the swelling.

A CASE OF LIPOMA:

Lipomas are benign subcutaneous tumors of fat cells (adipocytes) that present as soft, painless nodules[10]. Although it represents by far the most common mesenchymal neoplasm that occurs mostly on the trunk and proximal portions of the extremities[11].The incidence of lipomas on the oral and maxillofacial region are quite less. [12]Oral lipomas are usually soft in consistency, smooth-surfaced nodular masses that can either be sessile or pedunculated . Typically, the tumor is asymptomatic and often has been noted for many months or years before diagnosis. The buccal mucosa and buccal vestibule are the most common intraoral sites and account for 50% of all cases. Histologically, most [13]oral lipomas are composed of mature fat cells that differ little in microscopic appearance from the surrounding normal fat. [14]On rare occasions, central cartilaginous or osseous metaplasia may occur within an otherwise typical lipoma. Lipomas are conservative treated by local excision.

A case of lipoma came to our department with a painless swelling in the right buccal mucosa which was managed by surgical excision of the lesion.

A CASE OF FIBROMA (IRRITATION FIBROMA, TRAUMATIC FIBROMA, FOCAL FIBROUS HYPERPLASIA, FIBROUS NODULE)

The fibroma is the most common "tumor" of the oral cavity caused by a reactive hyperplasia of fibrous connective tissue in response to local irritation or trauma. Although the irritation fibroma can occur anywhere in the mouth , the most common location is the buccal mucosa along the bite line . Presumably. this is a consequence of trauma from biting the cheek[15]. The lesion typically appears as a smooth- surfaced pink nodule that is similar in color to the surrounding mucosa Most fibromas are sessile. although some are pedunculated[16]. Histological examination of the irritation fibroma shows a nodular mass of fibrous connective tissue covered by stratified squamous epithelium[17]. The irritation fibroma is treated by conservative surgical excision[18].

A case of irritational fibroma was reported in our department in the right alveolar mucosa which was managed by local excision.

A CASE OF SQUAMOUS PAPILLOMA

Squamous papilloma is a soft painless, usually pedunculated. exophytic nodule with numerous fingerlike surface projections that impart a "cauliflower" or wart like appearance. It is a benign proli feration of stratified squamous epithelium. resulting in a papillary or verruciform mass. Presumably. this lesion is induced by the human papillomavi rus (HPV). HPV comprises a large family (more than 1OO types) of double-stranded DNA viruses of the papovavirus subgroup A. The virus is capable of becoming totally integrated with the DNA of the host cell and at least 24 types are associated with lesions of the head and neck[19]. [20]

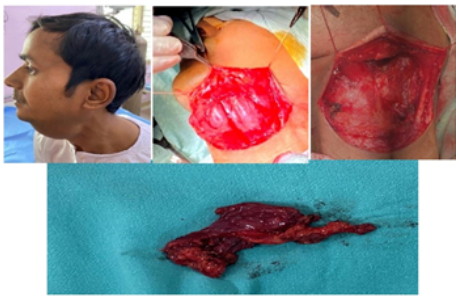
The exact mode of transmission is unknown. In contrast to other HPV-induced lesions. the viruses in this lesion appear to have an extremely low virulence and infectivity rate.

Conservative surgical excision and laser ablation including the base of the lesion. is adequate treatment for the oral squamous papilloma.

A case of papilloma in the palate was reported in our department which was managed by surgical excision of the lesion.

A CASE OF RANULA:

A ranula is a variant of mucocele found on the floor of mouth[21]. It is a mucus extravasation cyst involving a sublingual gland caused by local trauma. Ranula usually present as a swelling consisting of collected mucin from a ruptured salivary gland[22]. Treatment of the ranula consists of removal of the feeding sublingual gland and/or marsupialization. Marsupialization (exteriorization) entai is removal of the roof of the intraoral lesion[23] potentially all owing the sublingual gland ducts to reestablish communication with the oral cavity.



A case of ranula was reported in our department with a swelling in the floor of the mouth which was managed by removal of sublingual gland.

REVIEW OF LITERATURE:

Epidermoid cysts are slow-growing, painless masses that elevate the skin and often have a central punctum that represents the plugged orifice of the pilosebaceous follicle. On ultrasound, they have a round to oval structure, well-circumscribed, avascular mass located in subcutaneous tissue along with phenomena of dorsal acoustic amplification and lateral shadowing. On MRI, they have slightly hypointense signal intensity on T1-weighted and intermediate to high signal on T2-weighted. Restricted diffusion is typical of epidermoid cysts. These signs are useful in the differentiation of epidermal cysts from neoplastic lesions. They need early treatment as they can cause cosmetic and functional impairment.

[25]The epidermoid cyst can occur at any age, but it is more frequent in adulthood Zito et al reported that it occurs in a wide age range, from birth to 72 years but most typically arise in the third and fourth decades of life. Approximately 1% of epidermoid cysts have been noted to have a malignant transformation to squamous cell carcinoma and basal cell carcinoma. The face, neck, periauricular area, and upper trunk are more commonly involved, but any part of the body including sites such as the nipple, genitalia, and palmoplantar area may be involved. Janardhan and Mahadevan described 7% of these cysts occur in the head and neck, oral cavity representing only 1.6%. Lesions may be solitary or multiple.

Mucoepidermoid cyst: [26]This unusual cystic lesion was previously described as a lesion that has features of both botryoid odontogenic cyst and mucoepidermoid tumour and later was named as glandular odontogenic cyst. An additional case is reported and its clinicopathologic features described. The name "mucoepidermoid odontogenic cyst" is proposed. In 1987 PADAYACHEE & VAN WYK 4 reported 2 cases of a cystic lesion with features of both botryoid odontogenic cyst (BOC) and mucoepidermoid tumour (MET). The lesions were multicyclic and lined by epithelium with areas of plaque-like thickening, (which is a characteristic feature of BOC). The lesions also revealed pools of mucin in the cystic spaces, and mucus-producing cells, similar to those in MET[27].

Pleomorphic adenoma is a common benign salivary gland neoplasm characterised by neoplastic proliferation of parenchymatous glandular cells along with myoepithelial components, having a malignant potentiality. It is the most common type of salivary gland tumour and the most common tumour of the parotid gland. It is also known as "Mixed tumour, salivary gland type", which refers to its dual origin from epithelial and myoepithelial elements as opposed to its pleomorphic appearance. It is usually mobile unless found in the palate and can cause atrophy of the mandibular ramus when located in the parotid gland. When found in the parotid tail, it may present as an eversion of the ear lobe. Though it is classified as a benign tumour, pleomorphic adenomas have the capacity to grow to large proportions and may undergo malignant transformation, to form carcinoma ex-pleomorphic adenoma, a risk that increases with time (9.5% chance to convert into malignancy in 15 years). This tumour most often presents in the lower pole of the superficial lobe of the gland, about 10% of the tumours arise in the deeper portions of the gland..

Haemangioma (he-man-jee-O-muh) is a bright red birthmark that shows up at birth or in the first or second week of life. It looks like a rubbery bump and is made up of extra blood vessels in the skin. Haemangiomas are benign (noncancerous) vascular tumors, and many different types occur. The correct terminology for these haemangioma types is constantly being updated by the International Society for the Study of Vascular Anomalies (ISSVA). The most common are infantile haemangiomas, and hemangiomas. Known colloquially as a "strawberry mark", most commonly seen on the skin at birth or in the first weeks of life. A haemangioma can occur anywhere on the body, but most commonly appears on the face, scalp, chest or back. They tend to grow for up to a year before gradually shrinking as the child gets older. A haemangioma may need to be treated if it interferes with vision or breathing or is likely to cause long-term disfigurement. In rare cases internal haemangiomas can cause or contribute to other medical problems. The first line treatment option is beta blockers, which are highly effective in the majority of cases.

Lipoma is a benign tumor made of fat tissue.[28] They are generally soft to the touch, movable, and painless.[29] They usually occur just under the skin, but occasionally may be deeper.[30] Most are less than 5 cm in size.[40] Common locations include upper back, shoulders, and abdomen.[44] A few people have a number of lipomas.[42] The cause is generally unclear.[31] Risk factors include family history, obesity, and lack of exercise.[32][43] Diagnosis is typically based on a physical exam[38] Occasionally medical imaging or tissue biopsy is used to confirm the diagnosis.[33]

Treatment is typically by observation or surgical removal.[34] Rarely, the condition may recur following removal, but this can generally be managed with repeat surgery.[35] They are not generally associated with a future risk of cancer.[36]About 2% of people are affected.[41] Lipomas typically occur in adults between 40 and 60 years of age.[39] Males are more often affected than females.[37] They are the most common noncancerous soft-tissue tumor.[45] The first use of the term "lipoma" to describe these tumors was in 1709.[46]

Traumatic fibroma or irritation fibroma is the healed end product of the inflammatory hyperplastic lesion which can occur at any age from almost any soft-tissue site, tongue, gingiva, and buccal mucosa being the most common. It is usually characterized by a slow, painless growth accumulated over a period of months or years. [47]The most common clinical aspect is the growth of a well-delimited smooth-surfaced tissue, usually of a normal-colored mucosa, sessile or pedunculated base, of hard consistency,3 and smaller than 1.5 cm at its largest diameter.

Squamous papillomas are exophytic masses of the oral cavity, mostly benign and asymptomatic. They raise concern because of clinical appearance. Its pathogenesis is related to human papilloma virus (HPV) types 6 and 11.[48,49,50,51] The occurrence of these lesions is influenced by smoking, co-existent infections, dietary deficiencies and hormonal changes.[52] Squamous papillomas are traditionally divided into two types: Isolated-solitary and multiple-recurring. The former is usually found in an adult's oral cavity, while the latter is mostly found in a child's laryngotracheobronchial

complex.[53] The route of transmission of the HPV virus is unknown for oral lesions. These lesions commonly occur between the ages of 30 and 50 years, and sometimes can occur before the age of 10 years. Oral squamous papilloma accounts for 8% of all oral tumors in children.[48] The common site predilection for the lesion is the tongue and soft palate, and may occur on any other surface of the oral cavity such as the uvula and vermilion of the lip.[48,49,53] HPV involvement in head and neck carcinogenesis was first proposed by Syrjanen et al. in 1983.[48] Surgical removal is the treatment of choice by either routine excision or laser ablation.

Ranula is a mucus extravasation cyst involving a sublingual gland and is a type of mucocele found on the floor of the mouth[57]. [54]Minor trauma to the floor of the mouth is thought to damage the delicate ducts that drain saliva from the sublingual gland into the oral cavity.

It usually presents as a translucent, blue, dome-shaped, fluctuant swelling in the tissues of the floor of the mouth. If the lesion is deeper, then there is a greater thickness of tissue separating from the oral cavity and the blue translucent appearance may not be a feature. A ranula can develop into a large lesion many centimetres in diameter, with resultant elevation of the tongue and possibly interfering with swallowing (dysphagia). The swelling is not fixed, may not show blanching, and is non-painful unless it becomes secondarily infected. The usual location is lateral to the midline, which may be used to help distinguish it from a midline dermoid cyst.[55] The histologic appearance is similar to mucoceles from other locations. The spilled mucin causes a granulation tissue to form, which usually contains foamy histiocytes.[56]

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