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DERMOID CYST IN THE FLOOR OF THE MOUTH- A CASE REPORT

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ABSTRACT:

Dermoid cysts are rare developmental benign lesions that arise as a result of ectodermal differentiation of multipotent cells. Histologically the cysts are classified as dermoid, epidermoid and teratoid cysts depending on the presence of adnexal structures and derivatives of germ layers. When dermoid cysts appear in the floor of the mouth they can cause difficulty in deglutition and respiration. The differential diagnosis of dermoid cyst could be infection, ranulaor tumor. Intraoral or extra oral approach for enucleation is the method of treatment. Dermoid cysts have a good prognosis with low malignancy and recurrence rate. A case report of a dermoid cyst in the floor of the mouth is presented in this paper along with clinical, histopathological evaluation and the treatment.

Keywords: Dermoid cyst, Floor of the mouth, appendages, enucleation.

INTRODUCTION:

Dermoid cysts are rare developmental or acquired lesions occurring most frequently on the face, scalp, neck and trunk representing <0.01% of all cysts of the oral cavity [1]. They occur in the region where the fusions of embryonic elements occur. Hence they are usually seen in the midline of the floor in the oral cavity. It is a cyst lined by epithelium containing all the skin appendages like hair follicle, sebaceous glands and sweat glands. Dermoid cysts may be found in any age group. Highest incidence of the cyst is between the 15 and 35 years age group [1]. Women are affected more than men. The most common location of dermoid cyst in the head and neck region is the lateral aspect of eyebrow followed by floor of the mouth [2]. Pathogenesis of the dermoid cyst is unknown with the most acceptable theory being the entrapment of the epithelium during the fusion of first and second branchial arches [3-6]. Clinically it presents as an asymptomatic slow growing mass and is usually diagnosed after reaching a considerable size. The treatment of choice is surgical excision [5].

In this case report, we describe a case of a large dermoid cyst occurring in the floor of the mouth in a male patient.

CASE REPORT:

An 18 year old male patient reported with the complaint of an intra oral swelling below the tongue since 4 years, which was initially small in size and gradually increased to present size. Patient had difficulty in speaking and swallowing. Swelling was asymptomatic. He was moderately built with no signs of physical illness and no relevant medical history reported. On examination, a diffuse swelling of 5 x 3.5 cm in the floor of the oral cavity which is smooth and non tender, doughy pitting type, non pulsatile, not fixed to the underlying structures was found (Fig 1a). There were no palpable lymphnodes. Based on the history and clinical features the following differential diagnosis were considered; i) Ranula, ii) Lipoma and iii) Vascular malformation. Ultra sonography was performed. The report was suggestive of mucous extravasation cyst. Hence surgical excision of the lesion was planned under General anesthesia. General Anesthesia was administered with all the necessary precautions. The patient was painted and draped under aseptic conditions. A trans mucosal sublingual incision was placed in the floor of the oral cavity extending from 34 to 44 (Federation Dentaire Internationale -FDI tooth numbering system). Flap was elevated carefully by considering the anatomy of the region. The ducts of sub mandibular gland and rivinus were isolated. Care was taken not to traumatize the lingual nerve and sub lingual vessels. The lesion was well encapsulated. The resection was done in toto (Fig1b). Homeostasis was achieved by applying pressure and placing gauze packs. Copious irrigation of the area was done using normal saline. The margins of the incision were approximated and sutured using (4-0) vicriyl to get a water tight closure.

The resected specimen was sent for histopathological examination. On gross examination, one single bit of formalin fixed tissue was received measuring around 7x4x2 cms, brownish white in colour, soft in consistency and was having a definite border (Fig 2a). The lumen showed a yellowish coloured, foul smelling, and gritty cheesy material (Fig 2b). Microscopic examination with Hematoxylin & Eosin [H&E] stained section revealed a cyst lined by orthokeratinised stratified squamous epithelium. Some areas showed a prominent granular cell layer. The cyst wall had a fibrous capsule that showed sebaceous and sweat glands (Fig 3a). Few hemorrhagic areas were seen and the capsule had keratin flakes (Fig 3b). Final histologic diagnosis was dermoid cyst of the epidermoid type.

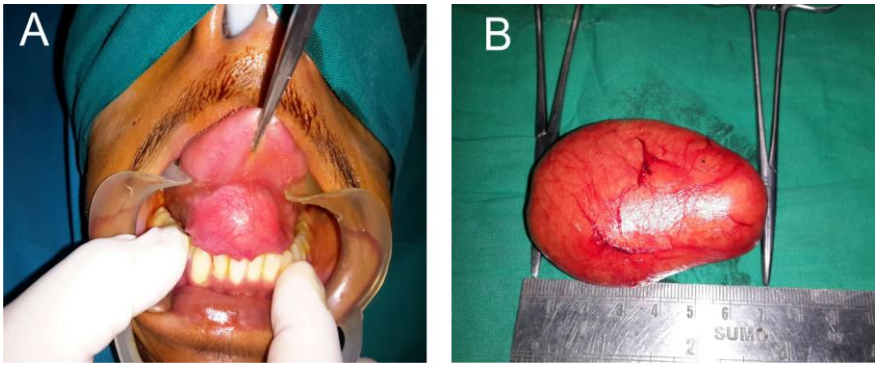

Fig 1: (A) Intra oral swelling in floor of mouth; (B) The resected lesion

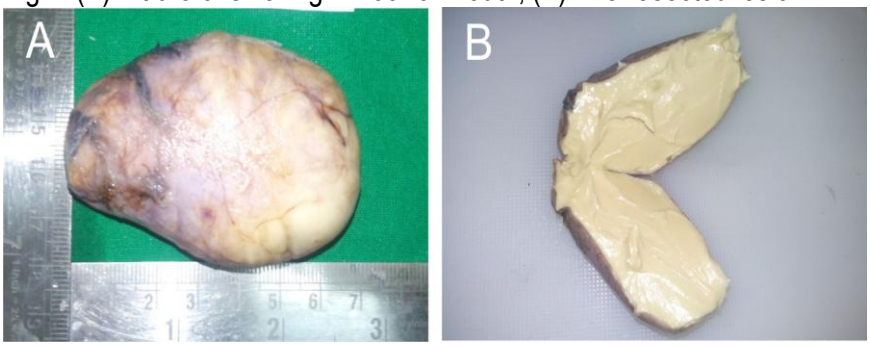

Fig 2: (A) Formalin fixed tissue; (B) Cross section showing gritty cheesy material

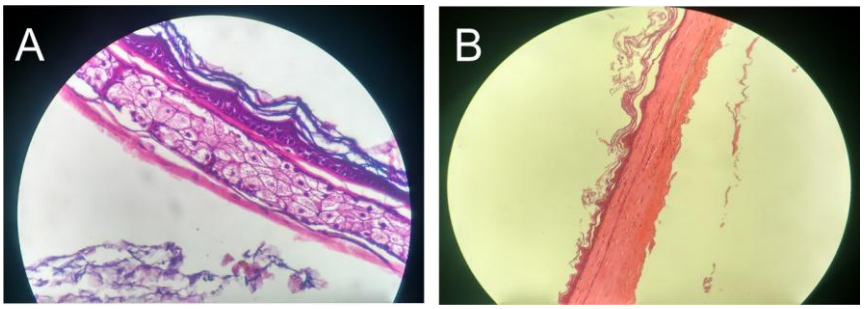

Fig 3: (A) Hand E section showing orthokeratinised stratified squamous epithelium with sebaceous glands (40x); (B) Keratin filled cystic cavity

DISCUSSION:

Several theories have been proposed to explain the development of dermoid cysts [3,7]. Dermoid cyst can occur anywhere in the body where fusions of embryonic elements occur. In the oral cavity, floor is the most common site in the midline. Because of their rarity, lateral dermoid cysts of the floor of the oral cavity are rarely considered in the differential diagnosis of lateral submandibular masses. The term dermoid cyst in the floor of the oral cavity is used to describe three types of histologically related cysts in the respective area: dermoid, epidermoid, and teratoid cysts [8]. These histological variations are categorized according to Meyer's classification [9].

Anatomically, dermoid cysts are possibly divided into three different types- median genioglossal, median geniohyoid, and lateral cysts depending on the relationship between the cyst and the muscles of the floor of the oral cavity. Although floor of the oral cavity in the midline is most favored site, occasional occurrence involving the buccal mucosa, tongue, lips, uvula, temperomandibular joint, dermal graft, intradiploic, intracranial, and intraosseous location within the mandible and maxilla also have been cited in literature [10,11].

Dermoid cyst of the oral cavity varies ranging from few millimeters to 2 cm in diameter. Many a times there might be a sudden increase in the size of the lesion which may be due to the onset of puberty which results in the secretion of sebum from sebaceous glands. They are slow growing in nature and are of doughy consistency. They exhibit pitting after application of pressure measuring about 2.5 x 1cm in diameter. If the cyst is present above the genioglossus muscle, it lifts the tongue causing difficulty in speaking and swallowing. If it occurs below the genioglossus muscle then it produces sub mental swelling giving a double chin appearance. In the present case, the patient had a cyst which elevated the tongue leading to difficulty in speaking and swallowing which was suggestive of presence of cyst above the genioglossus muscle.

Fine needle aspiration cytology, ultrasound, Computerized Tomography (CT) and Magnetic Resonance (MR) imaging provide essential information on the cyst location that allows optimal preoperative planning. Ultrasonographic findings comprise solid and cystic structures within a heterogeneous mass [12]. On CT scans, the dermoids appear as moderately thin walled, unilocular masses filled with a homogeneous, hypoattenuating fluidic substance with numerous hypo attenuating fat nodules giving the pathognomonic “sack-of-marbles” appearance [13].

MR imaging of dermoid cysts gives variable signal intensity on T1-weighted images and is usually hyperintense on T2-weighted images and is of considerable importance in depicting the relationship of cystic mass and muscles of floor of the mouth. The preferably chosen treatment for cysts in the floor of the oral cavity is their total excision (enucleation) via intraoral or extra oral approach or a combination of both, determined on each occasion by the size and location of the cyst [2,14,15].

The patient was treated with intraoral approach. Proper care was taken not to rupture the cyst, as cystic contents may act as irritants to fibro vascular tissues, causing postoperative inflammation [16].

Post operative instructions were given. Capsule amoxycillin 500mg and Tab Brufen 400 mg was given. The patient was seen after ten days for

suture removal and followed up after 3 months with no signs of recurrence.

CONCLUSION:

In conclusion, dermoid cysts are rarely found in the floor of the oral cavity and it needs to be differentially diagnosed from other diseases and conditions of that area. Their clinical picture involving a detailed examination of the size and anatomical location usually aids in better diagnosis. The importance of prompt and effective surgical treatment helps to prevent recurrence of this cyst.

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