J. Maxillofac. Oral Surg. (Apr-June 2012) 11(2):235–237
DOI 10.1007/s12663-010-0093-9

CASE REPORT

Giant Sublingual Dermoid Cyst in Floor of the Mouth

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Received: 17 August 2009 / Accepted: 15 October 2010 / Published online: 25 March 2011

Abstract The dermoid cysts of the mouth are most frequently located on the median line of the mouth floor and are most likely caused by the retention of the germinal epithelium during the growth of the mandible and hyoid branchial arches. We report an unusual case of giant dermoid cyst of the floor of the mouth in a 17-year female who presented with progressively increasing swelling below her tongue and reviewed the relevant literature.

Keywords Cysts · Dermoid cyst · Floor of the mouth · Congenital lesions

Introduction

Dermoid cysts are congenital lesions caused by a defect in the fusion of the embryonic lateral mesenchymatic mass and composed of tissues with different origins: ectoblastic, mesoblastic, or endoblastic, a true dermoid cyst cavity is covered with epithelium showing keratinisation and presenting identifiable dermal appendices [1]. These lesions rarely occur in the head and neck with an incidence ranging from 1.6 to 6.9%, and represent less than 0.01% of all oral cavity cysts [2–4]. We report an unusual case of giant dermoid cyst of the floor of the mouth and review the relevant literature.

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Case Report

A 17-year female patient presented with progressively increasing solitary swelling below her tongue since for last 3–4 years. Recently she noticed difficulty in eating and breathing and seek medical attention for the same. Her general and systemic examination was normal. Local oral examination revealed a large (approximately $9 \times 9 cm^2$), solitary, pinkish swelling present in the floor of the mouth. The swelling was soft, fluctuant with prominent blood vessels on it and was obliterating the floor of the mouth (Fig. 1A–C). Computerized tomography (CT) scan showed a well defined lesion in the floor of the mouth (Fig. 1D). Initially the Fine Needle Aspiration Cytology (FNAC) of the lesion was performed and it showed presence of mainly keratin and anucleate squames without inflammatory cells. All these features were suggestive of dermoid cyst. The patient underwent total excision of the lesion (Fig. 2A–D). Histopathology showed presence of cystic lining with underlying connective tissue stroma. The cystic cavity was lined by 8–12 cell layers thick hyperorthokeratinized stratified squamous epithelium which was 8–12 cell layers thick. Epithelium is was corrugated and having laminar keratinization. Underlying connective tissue stroma consisted fibroblast, collagen fibers, and aggregates of chronic inflammatory cells. At one place there were hair follicles with sebaceous gland. Keratinous debris could an also be seen in the lumen (Fig. 3). Overall histopathological features are suggestive of "Dermoid Cyst".

Discussion

The dermoid cysts of the mouth are most frequently located on the median line of the mouth floor, most likely caused

by the retention of the germinal epithelium during the growth of the mandible and hyoid branchial arches and are considered rare [2, 3, 5–10]. Although these lesions typically manifest during the second or third decade of life, however may present since birth with equal frequency of occurrence is both genders. Clinically, the dermoid cysts usually present as a painless slow-growing mass at the sublingual, submental and submandibular region [6]. Dermoid cyst of the oral cavity is either sublingual or submental and starts in the midline [1, 6, 11, 12], may extend laterally and downward and can attain a large size before presentation [1, 6, 11, 12]. However, there can be sudden increase in the size of these lesions and it can be due to the onset of puberty when there is an increase in the secretion of sebum from the sebaceous glands [5], or may be due to secondary infection of the cyst contents either by blockage of salivary glands involved in the cyst or by implantation of oral microbials into the cyst through trauma causing pain, trismus, fever, dysphagia, odynophagia and cervical lymphadenopathy [6, 13, 14]. When they develop, they do not appear until they grow large enough or appear through infection. Some operative approaches and management have been performed to large dermoid cysts in the floor of the mouth with some variations [10]. The plain radiographs and orthopantomogram are not of much help, the diagnosis is mainly made on computerized tomography, magnetic resonance imaging and ultrasonography indicating the cystic nature of the tumor, its size and anatomical relations [14–17]. MRI imaging showed the lesion to be a homogeneous, cystic lesion, clearly at a distance from the surrounding mucous tissue [18]. Differential diagnosis of cystic lesions of the floor of the mouth is important because the recommended surgical technique is not exactly the

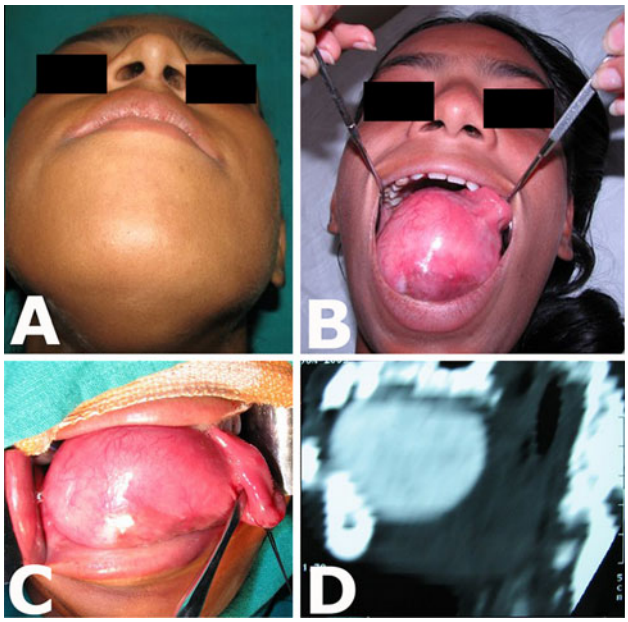


Fig. 1 **A** Submental swelling. **B** Giant sublingual swelling fom (floor of mouth). **C** Left lateral tongue on protruding. **D** Cect axial

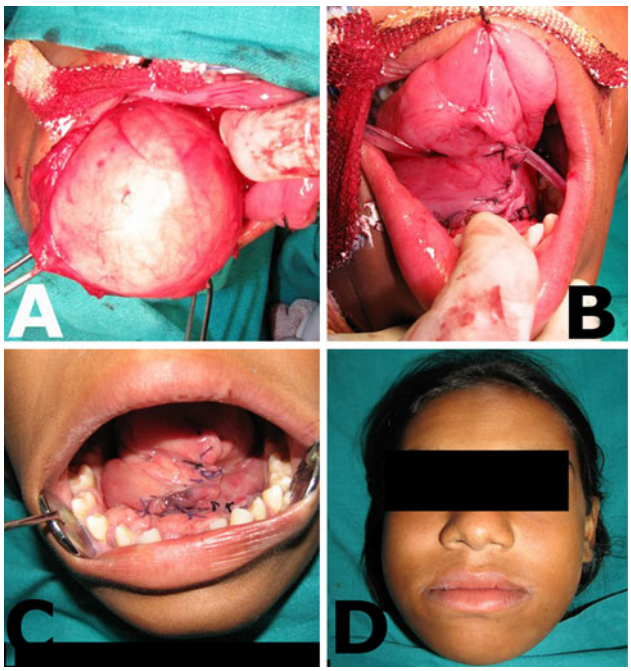
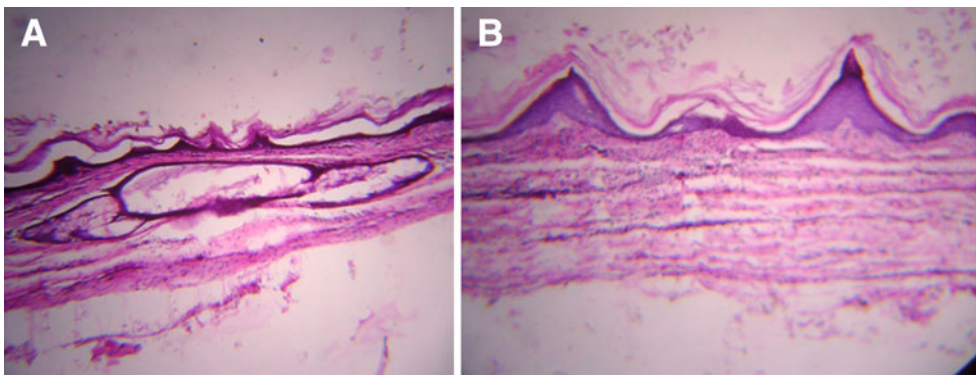


Fig. 2 **A** Intra – op. **B** Dermoid delivered darin in place. **C** One week post op (intraoral). **D** One week post op (extraoral)

Fig. 3 Histopathological sections 1 & 2 H&E stain



same in all of them [19]. There are several lesions which can present as a cyst or pseudocyst of the floor of the mouth with submental repercussion and these include neoplasm, infections and developmental processes i.e. cystic hygroma, acute infection, neurofibroma, haemangioma, sublingual ranula, lipomas, Ludwig's angina and lymphangioma [15, 17, 19]. The definite management of these lesions is complete surgical excision with very low recurrence rate, and it is facilitated by the fibrous capsule surrounding the cyst that makes it easy to be enucleated [11, 12, 20]. The intraoral approach is the most useful and effective for the treatment of large lesions and lead to very good cosmetic and functional results [10, 21–23], whereas the extraoral incision was necessary only when the cysts were under the geniohyoid muscle [21, 22].

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