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Dermoid Cyst of the Floor of the Mouth; Report of a Case

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Abstract **Case Report**

We report a large suprahyoid dermoid cyst located on the midline of the floor of the mouth. Classification, etiopathogenesis, positive and differential diagnosis, treatment, and prognosis are discussed. This anomaly is an infrequent congenital disorder that usually becomes apparent during the second or third decade of life. Prognosis is excellent after correct surgical treatment.

Keywords: Mouth, Dermoid cyst, mouth, oropharynx, CT scan.

INTRODUCTION

Dermoid cysts are for the most part benign neoformations most likely deriving from ectodermic differentiation of totipotent cells. Although localization on the floor of the mouth has been described for more than a century, it is still reported as rare and can give rise to problems in differential diagnosis. This work presents a case of dermoid cyst of the floor of the mouth in a 26-year-old patient and provides considerations on clinical approach, diagnosis and therapy for this type of lesion.

CASE REPORT

A 26 year old male patient presented with complaints of progressively increasing swelling of the floor of the mouth and suprahyoid neck of 2 months duration. The swelling was initially only in the floor of the mouth, however with gradual enlargement. It progressively became more prominent in the upper part of the neck in the midline (Fig 1). There was associated with a progressive dysarthria, dyspnoea, and dysphagia. The symptoms had rapidly progressed in the previous two weeks.

Examination revealed a tense tender cystic swelling involving the anterior floor of the mouth pushing the tongue upwards and backwards, therby distorting and compressing the oropharyngeal airway. The neck swelling was in the submental triangle, tense and cystic with smooth surface. The swelling did not move on swallowing or on tongue protrusion. Indirect laryngoscopy could not be done due to posterosuperior displacement of the tongue. Flexible Fiberoptic Laryngoscopy revealed a grossly reduced and distorted oropharynx. The hypopharynx and larynx were normal. Complete blood count and biochemistry were within normal limit.

Ultrasound examination showed a cystic formation of the floor of the mouth, thin-walled, regular contours, well limited, with homogeneous echoic content, non-vascularized by color Doppler, measuring 6.5x3.5 cm (Fig 2).

Contrast enhanced CT scan showed a 10x8 cm cystic swelling of the sub-lingual space below the genioglossus pushing the mylohyoid downwards, extending posteriorly up to the base of tongue. Compressing the oropharyngeal airway (Fig 3).

An extra-oral approach was chosen for surgical excision. Through a midline lip-splitting incision the cyst was approached by carrying out a symphyseal mandibulotomy and swinging the mandible. The cyst was excised completely and the wound was closed in layers after stablizing the mandible with miniplates. Postoperative period was uneventful. Histopathology of the cyst confirmed a diagnosis of an inflamed dermoid cyst.

Fig-1: Swelling of the floor of the mouth.

Fig-2: Ultrasonography (a, b): cystic formation of the floor of the mouth, thin-walled, regular contours, well limited, with homogeneous echoic content, non-vascularized by color Doppler, measuring 6.5x3.5 cm.

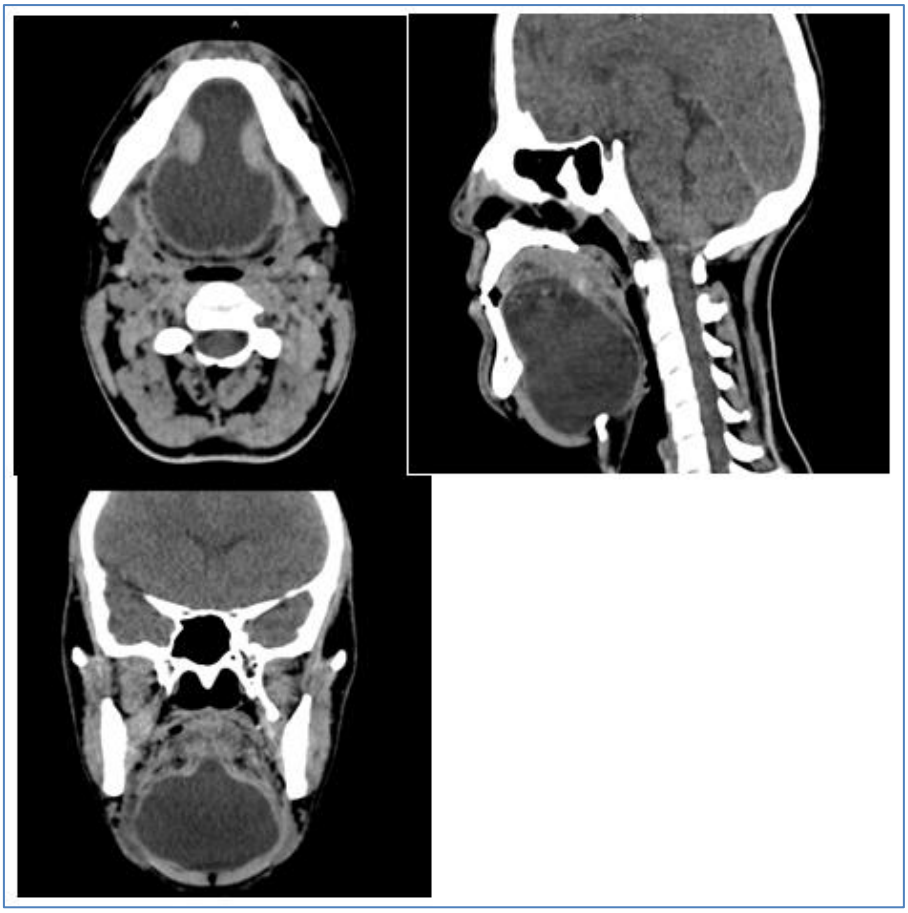

Fig-3: CT scan (axial, sagittal and coronal) showing elevated base of tongue with compromised oropharyngeal airway due to giant dermoid cyst floor of mouth

DISCUSSION

Dermoid cysts are rare congenital lesions derived from ectodermal differentiation [1]. Histologically, they are divided into three types according to their contents. If there are no dermic annexes present, the cyst is called epidermoid, if there are annexes such as sebacious glands, sudoriferous glands or hair follicle, the cyst is called dermoid. The third type is called teratoma and is formed by a covering containing structures derived from the three germ layers-ectoderm, endoderm and mesoderm, and it can contain dermic annexes, segments of muscles and bone or respiratory and gastrointestinal mucosa [2-4].

It can be assumed that this tumor rarely Occurs in the oral cavity, and that it is reported as a type of dermoid cyst. As pointed out by Thoma (Gorlin and Goldman, 1970), the term dermoid cyst has been erroneously used to describe a benign cystic teratoma of the ovary for a long time.

The theories for the origin of dysontogenic cysts fall into 2 categories: congenital and acquired."The most widely accepted theory describes that the cyst results from entrapped midline ectodermal tissue during fusion in the third and fourth weeks in utero of the mandibular (first) and hyoid (second) branchial arches. The lateral dysontogenic cyst is thought to arise from the first pharyngeal pouch or the first branchial cleft [5, 6]. The acquired or post traumatic theory suggests that traumatic implantation (from a surgical or accidental trauma) forces epithelial cells into deep tissues [7-9]. Baker and Mitchell demonstrated this theory by implanting skin in subcutaneous tissue of experimental rats, in which cystic cavities filled with keratin and hair resulted.

Epidermoid and dermoid cysts are rare benign tumors that may occur anywhere in the body and can reach very large sizes. About 7% of them are found in the head and neck region and only 1.6% are located within the oral cavity [10]. The most frequent location in the head and neck area is the peri-orbital region followed by peri- or intra-oral sites. The majority of cases in the head and neck are found in individuals over 20 years of age, without a sex predilection. The intraoral cyst generally develops in the floor of the mouth and it can be found either lateral to the tongue or in the midline of the oral floor [11].

The location of the cyst is a determining factor for surgical approach. Most authors prefer to use the intraoral approach for sublingual cysts and submental approach for the submental and submandibular cysts [12]. Seward 1965 and Rapidis 1981 advocated the

intraoral approach for all cases, except when there are large blood vessels adjacent to the cysts. Other authors suggest extraoral approach for large cysts, so that damage to subjacent structures may be prevented [13].

Floor of mouth dysontogenic cysts rarely present in the sublingual space and can present with dysphagia, dyspnea, or dysphonia. Ultrasonography and CT scan are the imaging methods of choice to confirm a suspected diagnosis of a floor of mouth dysontogenic cyst. Complete surgical excision is the treatment of choice. If the dysontogenic cyst extends into the sublingual space, the most commonly used approach is excision through an intraoral incision. A second submental skin incision can be added to ensure complete enucleation if the cyst is unusually large or if there are multiple cysts. A submental skin incision is the incision of choice if there is no extension of a submental dysontogenic cyst into the floor of the mouth. In infants, multiple dysontogenic cysts should be suspected, and will likely require both intraoral and extraoral incisions. Tracts can be present extending to various structures in the oral cavity, oropharynx, and hypopharynx. Tracts should be suspected in all cases of floor of mouth dysontogenic cysts, particularly if there has been a previous excision, marsupialization, or incision and drainage. Recurrence of dysontogenic cysts is rare, but can occur remote from enucleation of a floor of mouth dysontogenic cyst. Although this review is limited by its retrospective nature, we have presented a comprehensive picture of floor of mouth dysontogenic cysts, addressing the significance of the presence of tracts or multiple cysts, as well as the most appropriate surgical approach [14, 15].

CONCLUSION

Dermoid cysts are rare cysts filled with sebum like material with evidence of specialized skin derivatives. Floor of the mouth dermoid cysts account dor 1, 6 % of all dermoid cysts and the usually present as a midline symmetrical slowly enlarging lesion. Cysts suoerfucial the geniohyoid may cause posterosuperior displacement of the tongue, dysphonie, and dysphagia or airway obstruction. While cysts inferior to geniohyoid can cause sublental swelling.

Ultrasonography, CT scan and spacially MRI are the imaging methods of choice to confirm a suspected diagnosis of a floor of mouth dysontogenic cyst. Complete surgical excision is the treatment of choice.

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