

DERMOID CYST OF THE FLOOR OF THE MOUTH

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يصف هذا المقال حالة كيس نظير الأدمة ذو حجم كبير ظهر في منطقة قاع الفم. وقد جرت معالجة هذا الكيس جراحياً بنجاح. وفي هذا المقال تمت مراجعة الأسباب المختلفة المؤدية لظهور انتفاخات في منطقة قاع الفم مع التأكيد على الظواهر السريرية للحالة تحت الدراسة.

A large dermoid cyst of the floor of the mouth is reported. The cyst was successfully treated by surgery. The etiology of swellings of the floor of the mouth is reviewed with special reference to the clinical features of the case described.

Case Report

A 50-year-old Saudi male reported to the Riyadh Dental Center with a painless swelling in the floor of the mouth of ten years duration, and with associated difficulty of speech and swallowing. The swelling had been steadily increasing in size during the previous two years.

Extraoral examination showed a well circumscribed mass fully occupying the submental region. The overlying skin was normal [Fig. 1] without clinically palpable regional lymph nodes.

Intraoral examination revealed a big swelling in the floor of the mouth pushing the tongue upwards [Fig. 2]. The overlying mucosa covering the swelling was normal and saliva could be expressed from the orifices of Wharton's duct. On bimanual palpation, the mass was well circumscribed, roughly rounded and of doughy consistency. Fluctuation could be elicited bimanually. Needle aspiration yielded a thick, whitish, creamy material.

The clinical diagnosis of a dermoid cyst was established. Patient underwent routine investigations before he was operated under general anesthesia. The lesion was enucleated *en toto* through an intraoral approach. The tissue was sent for histopathological examination, the report of which was consistent with the clinical diagnosis [Fig. 3]. The histopathological report read: "*The cystic*

space is lined with keratinized stratified squamous epithelium containing keratin-like material. Although this field does not show any skin appendages but intra-operatively, hairs were seen in the cystic cavity"

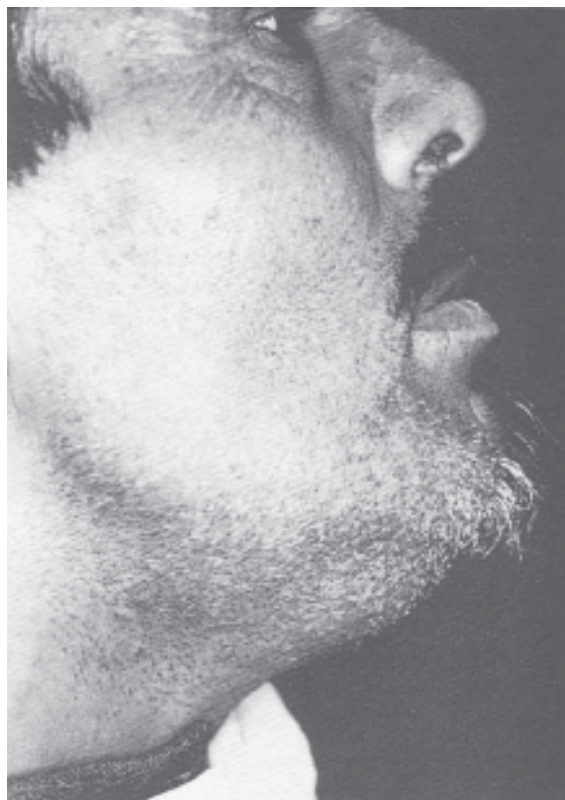


Figure 1. Extraoral photograph showing fulness in the submental region.

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Figure 2. Intraoral photograph showing (1) tongue; (2) cystic swelling; and (3) openings of Wharton's ducts.



Figure 3. Extraoral postoperative photograph of the patient.

The post-operative phase was uneventful. The swelling disappeared [Figs. 4, 5] allowing the patient to swallow and articulate normally. He was discharged after seven days. At present, he has completed 12 months post-operatively without any complaints.

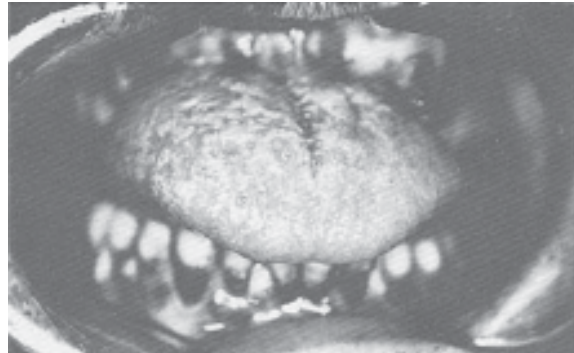


Figure 4. Intraoral postoperative photograph of the patient.

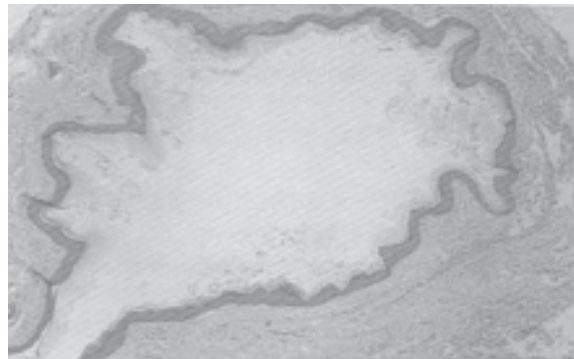


Figure 5. Photomicrograph showing cystic cavity lined with keratinized stratified squamous epithelium containing keratin flecks (magnification X40; staining H & E).

Differential Diagnosis

Swellings in the floor of the mouth are not common and they fall into three groups, namely, infectious, neoplastic, and cystic (developmental).

Infectious group includes several diagnostic possibilities. If the lesion is nodal in origin, enlargements to be considered include non-specific adenitis, cat-scratch disease, tuberculosis, infectious mononucleosis and sarcoidosis. An infectious etiology was unlikely in this case because the duration was long and symptoms were attributed to the bulk of the swelling.

Neoplastic lesions must be considered in any situation with a persistent, steadily enlarging mass. The most likely neoplasms in this location are benign and malignant salivary gland tumors, cystic hygroma, primary lymphomas and nodal metastasis. A neoplasm may be cystic but, in the case presented, clinical signs and symptoms did not point towards a neoplasm.

From the history and clinical presentation of this case, a cystic lesion was the most probable diagnosis. Cystic lesions in this location which were considered, included dermoid cyst, branchial cyst, a thyroglossal cyst, and a plunging ranula. Of these, the least likely was the branchial cyst which normally presents as a more laterally located lesion containing thin, watery fluid, or thick mucoid material.¹ The plunging ranula was ruled out because the overlying mucosa in this case was of normal color and the mass was positioned symmetrically, both intraorally and submentally. Dermoid cyst often occurs in the floor of the mouth, originating either deep or superficial to the mylohyoid muscle. It can grow to a rather large size and interfere with speaking or swallowing. The needle aspirate in this case was consistent with the classical textbook description.¹ A dermoid cyst was, therefore, the most likely clinical diagnosis for this patient, and this was confirmed by the histological report.

Discussion

The pathogenesis of dermoid cysts located in the floor of the mouth is not definitively established. A number of investigations support the theory of embryological epithelium implantation, whereas others propose the theory of traumatic implantation of epithelium. The complex embryologic development of structures of the floor of the mouth, the consistency with the clinical picture, and the usual absence of significant injury to the area suggest that most of these are congenital and not traumatic in origin.²

Dermoid cysts have been classified as median and lateral. The two differ in their origin and clinical presentation. The median cyst lies in the connective tissue beneath the lingual frenum. As they increase in size, they push apart the genioglossus muscle, growing deeper into the floor of the mouth and backwards into the tongue.³ Lateral dermoid cyst on the other hand lies in the depth of the muscular gutter formed by the mylohyoid muscle laterally, and the genioglossus and geniohyoid muscle medially.^{4,5} However, when these cysts reach large sizes, it becomes difficult to differentiate between median and lateral types.

Histologically, dermoid cysts are divided into three types.^{6,7} The simple and most common type is epidermoid in which the cyst wall is lined by stratified squamous epithelium, which may be partly keratinized. The compound dermoid type is similar to the epidermoid but the epithelial lining and wall shows evidence of skin appendages. The third and rarest is the teratoid type which contains mesodermal tissue derivatives, such as muscle in addition to adnexal structures.

Dermoid cysts are more common in the second and third decades of life⁸ but our case was in the fifth decade which was unusual. The cyst varies in size and consistency depending on the content.¹

The surgical removal of a large dermoid cyst in the floor of the mouth using an intraoral approach is difficult. In cases where the cyst is below the geniohyoid muscle, however, many surgeons prefer the extraoral approach.^{9,10} After complete excision, dermoid cysts of the floor of the mouth do not recur. Malignant changes in these cysts had been reported¹¹ but only in cysts occurring outside the oral cavity.

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