CASE REPORT

Plunging sublingual dermoid: Intraoral excision

Uma Garg a,*, Ritika Batra a, M.K. Garg b

a Department of ENT & Head and Neck Surgery, BPS Government Medical College & Hospital, India
b Department of Surgery, BPS Government Medical College & Hospital, India

Received 15 September 2013; accepted 29 November 2013
Available online 22 December 2013

KEYWORDS
Sublingual;
Intraoral;
Extraoral;
Mylolhyoid

Abstract A case of a dermoid cyst with an oral and a submental component is presented here in a 10-year-old child who presented with complaints of a slow growing painless mass in the oral cavity and difficulty in chewing and swallowing solid foods for about 2 years. Ultrasonography revealed cystic swelling occupying the sublingual as well as submental space. Under general anesthesia and with nasotracheal fiber optic intubation in awake state, the patient underwent excision of the mass. Although the cyst was large and extending through the mylohyoid muscle, intraoral midline incision was performed through the mucosa overlying the swelling and the cyst was separated from the surrounding tissues with appropriate traction and countertraction and successfully removed without extraoral incision. Oral approach in surgical enucleation is a useful procedure to avoid cosmetic problems in large sublingual dermoid cysts.

© 2013 Production and hosting by Elsevier B.V. on behalf of Egyptian Society of Ear, Nose, Throat and Allied Sciences.

1. Introduction

Dermoid cysts of the head and neck are benign lesions and constitute 7% of total dermoids occurring in the body and 1.6% within the oral cavity.1–4 They represent less than 0.01% of all oral cavity cysts.2–7 The pathogenesis of midline cysts of the floor of the mouth is not well established, and dysontogenetic and thyroglossal anomaly theories have been suggested. In fact dermoid cysts occur primarily in the oral cavity, and the most common location in the head and neck is the external angular dermoid.4,5 Dermoid cysts are congenital but they can present in the second or third decade of life as painless slowly growing masses.5–7 Complete surgical excision is treatment of choice for dermoid cysts. The approach can be either intraoral or extraoral, depending on the localization and size of the intraoral dermoid. Cysts are classified into three types by localization: (1) sublingual, (2) submental, and (3) submandibular cysts. Oral approach is suitable only for small sublingual cysts while submental and large sublingual cysts are preferably excised by extraoral incision. Dermoid cysts usually present early in life as asymptomatic masses; they may reach a large size and involve more than one anatomical area, including that near the hyoid bone.2–5 Such a swelling on the floor of the mouth can occasionally cause serious problems of dysphagia, dysphonia and dyspnea, (3 ds)5,6 or the patient presents with a double chin.7 A case of giant sublingual dermoid cyst...
was reported in a 10-year-old child that was successfully removed by oral approach without extraoral incision.

2. Case report

A 10-year-old child presented to the otolaryngology department with the chief complaint of a swelling below the tongue producing difficulty in chewing and swallowing of solid foods for about 2 years. Examination revealed the presence of a solitary midline swelling in the sublingual region measuring 6 × 5 cm (Fig. 1). It was nontender, fluctuant, soft, and non-mobile, and no secondary changes in mucosa with dough like consistency on palpation were observed. There were no inflammatory signs or lymphadenopathy associated with the swelling (Fig. 2). Ultrasonography revealed cystic mass of the size of 7 × 6 cm. Aspiration cytology was performed and revealed a cheesy material containing numerous non nucleated epithelial cells. The patient underwent excision under general anesthesia with nasotracheal fiber optic awake intubation. An intraoral midline incision from ventral surface of the tongue to the floor of the mouth was used to access the lesion (Fig. 3). Special attention was paid to the Wharton’s ducts to prevent injury bilaterally. The cyst was completely exposed, and on evaluation partial caudal herniation through the mylohyoid muscle was seen. A combination of sharp and blunt dissection was used to free the cyst with traction and counter-traction, and it was delivered intact per os (Figs. 4 and 5). The specimen was dumbell shaped full of cheesy material. The wound was closed in layers. Examination with hematoxylin-eosin staining revealed a cystic lesion with a stratified squamous epithelium lining and a fibrovascular connective tissue capsule covering the cystic lumen. These findings are consistent with a dermoid cyst.

3. Discussion

Epidermoid and dermoid cysts of the oral cavity represent less than 0.01% of all oral cavity cysts. Histologically, this distinction of the cysts in the floor of the mouth was presented by Meyer in. The cyst is described as epidermoid when the lining presents only epithelium, dermoid when skin adnexa are found, and teratoid when other tissues such as the muscle, cartilage, or bone are present within the cyst. Dermoid cysts of the floor of the mouth are disembryogenetic lesions derived
from the entrapment and subsequent growth of epithelial cells during midline fusion between the first and second branchial arches in the third and fourth embryonic weeks. Acquired forms are derived from either iatrogenic or traumatic inclusion. Dermoid cysts are generally diagnosed in the second and third decades of life but can present at any age. Congenital cysts of ectodermal origin are uncommon in the oral cavity (1.6%), and epidermoid cysts rarely occur there. Midline cysts of the floor of the mouth are painless lesions that swell from the anterior portion of this region. Because these cysts can displace the tongue, patients usually present with dysphagia, dysphonia, and dysepsia; in the case of lower localization they present with a characteristic double chin (3) sometimes they are so huge that one can refer them as cervical dermoid. Anatomically, three different types of dermoid cysts can be distinguished: median genio-glossal (sublingual), median geniohyoid (submental), and lateral, according to the anatomic relationship between the cyst and the muscles of the floor of the mouth. The floor of the mouth is the second most common site for dermoid cysts in the head and neck region after the lateral eyebrow. The differential diagnosis of sublingual lesions includes infectious process, ranula, lymphatic malformation cystic hygroma, salivary gland tumor, heterotopic gastrointestinal cyst, and duplication foregut cyst. For this reason, bimanual conventional radiography is not always sufficient for making a differential diagnosis. Computed tomography and magnetic resonance imaging allow more precise localization of the lesion in relationship to the geniohyoid and mylohyoid muscles, and they also enable the surgeon to choose the most appropriate surgical approach, especially in the case of very large lesions. Treatment is by enucleation via an intraoral or extraoral approach. An intraoral approach is recommended by most authors for sublingual cysts of small or moderate dimensions (less than 6 cm) above the mylohyoid muscle, whereas an extraoral approach is preferred for larger sublingual cysts (more than 6 cm). With traction and counter traction most sublingual dermoids can be excised intraorally. Injury to the Wharton duct should be avoided. Advanced radiologic diagnostic investigations are desirable but not mandatory since diagnosis is mainly clinical. FNAC may help in confirmation. A complete battery of investigation may aid in formulating a definite surgical approach for good esthetic and functional results.

4. Conclusion

An intraoral approach is recommended by most authors for sublingual cysts of small or moderate dimensions (less than 6 cm) above the mylohyoid muscle, whereas an extraoral approach is preferred for larger sublingual cysts (more than 6 cm). With traction and counter traction most sublingual dermoids can be excised intraorally. Injury to the Wharton duct should be avoided. Advanced radiologic diagnostic investigations are desirable but not mandatory since diagnosis is mainly clinical. FNAC may help in confirmation. A complete battery of investigation may aid in formulating a definite surgical approach for good esthetic and functional results.

References