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Case Report

Mandibulotomy - safe and cosmetically best approach for large size sublingual tumours

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ABSTRACT

Epidermoid and dermoid cysts are benign lesions encountered throughout the body, with 7% occurring in the head and neck area and 1.6% within the oral cavity. They represent less than 0.01% of all oral cavity cysts. We report a case of sublingual dermoid cyst with an oral and submental component in a 22 year old female who presented with complaint of painless swelling in the midline of neck since birth, later diagnosed as sublingual dermoid. Conventionally either intraoral or extraoral approaches are used for its excision. In this report we are presenting our experience with transoral approach. The approach was safer in regard to any injury to the vital structures, easy access and was cosmetically better for the patient. So it is better than the previous approaches for large size sublingual tumours.

Keywords: Dermoid, Sublingual, Mandibulotomy, Transmandibular, Transoral

INTRODUCTION

Epidermoid and dermoid cysts are benign lesions encountered throughout the body with 7% occurring in the head and neck area and 1.6% within the oral cavity.[1] They represent less than 0.01% of all oral cavity cysts.[2] Dermoid cysts occur primarily in the testes and ovaries, and the most common location in the head and neck is the external third of the eyebrow.[3] Dermoid cysts generally present with slow and progressive growth, and even if they are congenital, the diagnosis is usually possible in the second or third decade of life.[4] The treatment of dermoid cysts of the floor of the mouth is surgical and can be by an intraoral or extraoral route according to the localization and the size of the mass.[5] In this article, we outline a case of sublingual epidermoid cyst with an oral as well as a submental component diagnosed in a 22 year old female which was excised by transoral mandibulotomy approach which was found to be safest and cosmetically best approach.

CASE REPORT

A 22 year old female presented with complaint of painless swelling in the midline of neck since birth with rapid increase in size since last 2 months alongwith difficulty in opening the mouth (Figure 1). She had no complaints of dysphagia, dyspnoea or hoarseness of voice. On examination a 10x9 cm, firm, non-tender lump was present in midline of the neck which was also projecting into the oral cavity, more prominent towards the right with well-defined margins. It did not move with deglutition or protrusion of tongue. There was no inflammatory signs or lymphadenopathy associated with the swelling. Ultrasonography revealed 7x6 cm cystic lesion in midline of neck reaching upto right mandibular ramus. Aspiration cytology was done and revealed it to

be dermoid cyst. MRI imaging showed a 7.2x6.6x 6.9 cm large, unilocular, ovoid, well defined, midline cystic mass giving sac of marbles appearance of floor of mouth causing marked inferolateral displacement of mylohyoid muscle consistent with sublingual space dermoid (Figure 2). The patient underwent excision under general anaesthesia with nasotracheal intubation. The midline mandibulotomy approach was used with consideration of better access, safety and better cosmetic results. Mandibulotomy was done in a zig-zag manner for better fixation after surgery (Figure 3). Intraoperative finding was a large size lump involving the parapharyngeal space and a stretched out mylohyoid muscle was seen. Cyst was separated from all structures and was removed-en-bloc. The specimen was full of cheesy material with multiple rounded marble like contents in it (Figure 4). The two rami of mandidle were approximated using plates and screws. On histology acidophilic stratum corneum and basophilic dot like staining of stratum granulosum were seen. Stratum granulosum is the hallmark of epidermoid cyst. These features were consistent with epidermal cyst. After 20 days followup patient had no signs of cranial nerve injury or any other complications and was doing well with a fading scar (Figure 5).

Figure 1: A patient with sublingual dermoid presenting with huge painless lump in the neck.

Figure 2: MRI appearance of sublingual dermoid with its typical sack of marbles appearance.

Figure 3: A midline mandibulotomy approach for large sublingual tumors done in zig-zag manner for better fixation after surgery. The approach provides easy access, good cosmesis with less chances of injury to vital structures in such cases.

Figure 4: A large sublingual dermoid excised en-bloc with its contents through mandibulotomy approach.

Figure 5: Patient with a fading scar after 20 days of excision of the sublingual dermoid through manndibulotomy approach. The reults are cosmetically better.

DISCUSSION

Congenital cysts of ectodermal origin are uncommon in the oral cavity (1.6%), with epidermoid cysts rarely occurring there.[6] Midline cysts of the floor of the mouth are painless lesions that swell from the anterior portion of this region. Because they can displace the tongue, patients usually present with dysphagia, dysphonia, and dyspnea, and in the case of lower localization, they present a characteristic double chin.[5]

The cysts can be defined as epidermoid when the lining presents only epithelium, dermoid cysts when skin adnexa are found and teratomas when other tissue such as muscle, cartilage, and bone are present.[7] But for convenience the term dermoid is used for all of them. Anatomic classification divides the cysts of the floor of the mouth into three groups according to their relation to the muscles of the floor of the mouth: sublingual or median genioglossal cysts, located above the geniohyoid muscles; median geniohyoid cysts, located in the submental region between the geniohyoid and mylohyoid muscles; and lateral cysts, located in the submaxillary region.[5]

The differential diagnosis of sublingual lesions includes: infectious process, ranula, lymphatic malformation, dermoid cyst, epidermoid cyst, heterotopic gastrointestinal cyst and duplication foregut cyst. For this reason, bimanual palpation and conventional radiography are not always sufficient in making differential diagnoses. In these cases, it is necessary to use ultrasonography, computed tomography, or magnetic resonance imaging together with cytologic examination by fine-needle aspiration biopsy.[8] Computed tomography and magnetic resonance imaging allow more precise localization of the lesion in relationship to geniohyoid and mylohyoid muscles, and they also enable the surgeon to choose the most appropriate surgical approach, especially for very large lesions.[5]

Surgical enucleation is the only effective treatment for these lesions. Several techniques are reported in the literature, which may be divided into intraoral and extraoral techniques depending on which approach is used.[5] Prognosis is very good, with a very low incidence of relapse. Malignant changes have been recorded in dermoid cysts by new and erich but not in the floor of the mouth, although a 5% rate of malignant transformation of oral dermoid cysts of the teratoid type has been reported by other authors.[4]

We used a transoral approach through midline mandibulotomy as it had following advantages over the conventional intraoral and extraoral approaches. 1) Safe, because of less chances of injury to wharton's duct and other vital structures like cranial nerves IX-XII, sympathetic chains especially in case of large tumors reaching upto parapharyngeal space 2) It provides easy access to the operative field 3) Better cosmetic results. Care should be taken not to overextend the mandibular rami as it may lead to damage of the temporo-mandibular joint.

CONCLUSION

The transoral approach for large size sublingual tumors is better than conventional methods as it provides easy access and has less chances of injury to surrounding vital structures. This approach has better cosmetic results with minimal scar and no deformity. We recommend this approach for large size sublingual tumor.

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