The dilemma of an atypical cyst - the epidermoid of the lower lip

Dr. Swapnil Sabnis, Dr. Swapnil Garde, Dr. Sanjay Chandan, Dr. Susheel Bagul

Department of Oral and Maxillofacial Surgery, Sinhgad Dental College and Hospital, Pune, Maharashtra, India

Abstract

Of all the benign lesions commonly found occurring throughout the body, the epidermoid and dermoid cysts are the most usual form of cutaneous cysts. They are observed in regions where embryonic elements fuse together such as in the head and neck region with a prevalence of 1.6–6.9%. They have as less an occurrence as 0.01% of all oral cavity cysts and are found mainly in the area of the floor of the mouth, tongue, lips, or the interior of the bone. Cases of epidermoid cyst in locations, such as the lip, are very rare, and hence, a need was felt to report this case. In this report, we present a case of a labial epidermoid cyst in a 23-year-old female patient with a chief complaint of unesthetic swelling in lower right lip region near the corner of mouth for 2–3 months.

Keywords: Cyst, enucleation, epidermoid cyst, lower lip

Introduction

Classification of epidermoid cysts can be either congenital or acquired. Congenital inclusions of ectodermal tissue during embryologic development are thought to be the origin for the development of congenital types, whereas implantation of epithelium, by either surgical or accidental trauma into deeper mesenchymal tissues, could be the cause for the development of acquired variants. However, microscopically or histopathologically these two types can be differentiated. A keratin-filled cyst lined by keratinizing stratified squamous epithelium with lacking skin appendages in the cystic wall is evident in both the types. They are observed mainly in regions where embryonic elements fuse together such as in the head and neck region with a prevalence of 1.6–6.9%. They have as less an occurrence as 0.01% of all oral cavity cysts and are found mainly in the area of the floor of the mouth, tongue, lips, or the interior of the bone. Cases of epidermoid cyst in locations, such as the lip, are very rare. On reviewing English literature in PubMed and Google databases, 11 cases were noted, of which 8 were reported in the lower lip and 3 in the upper lip.

Case Report

A 23-year-old woman reported with a 2–3 month history of a lump on the right lower lip. Initially, the lump was smaller in size and gradually enlarged to a pea size. The patient had no notable family history or medical history. Extraoral examination revealed a solitary, roughly spherical swelling approximately 2 cm × 1.5 cm in size shown beneath the lower lip on the right side extending medially 1 cm away from the midline to laterally up to the corner of the mouth, superiorly from the vermillion border of the lower lip, and inferiorly up to 1.5 cm above the inferior border of the mandible [Figure 1]. The overlying skin appeared to be normal and smooth. The lesion was firm in consistency, freely movable, non-compressible, non-reducible, and non-tender, and no pulsations were felt.

The intraoral examination of the lower labial mucosa revealed a solitary swelling, which was roughly spherical and approximately 2 cm × 1.5 cm in size, which was extending medially 1 cm from the labial frenum to laterally 1 cm away from the left commissure, superiorly up to the mucosal lining of the lower lip to inferiorly up to the labial vestibule [Figure 2]. The swelling was non-tender on palpation, did not blanch on pressure, and formed a doughy, freely mobile mass. The covering mucosa was normal in color and texture with respect to adjacent tissue. All the complement of teeth was present and the patient’s oral hygiene was satisfactory. A differential diagnosis of lipoma, mucocele, and epidermoid cyst was made.

Histopathological investigations were carried and a specimen of 1.5 cm × 1.0 cm in size, firm in consistency, grayish-yellow in color, oval in shape, and regular borders was taken up for processing by the laboratory. The studied H and E stained section of submitted tissue showed thin stratified squamous cystic epithelium with hyperorthokeratosis. Lumen was filled with orthokeratin. Connective tissue stroma was fibrocellular.
Muscle tissue was also seen in the connective tissue. The histopathological features were suggestive of an epidermoid cyst [Figure 3]. Complete excision or enucleation of the cyst was the ideal treatment option considered [Figure 4 and 5].

**Discussion**

Epidermoid cysts have a cystic cavity that is lined by an epithelium without skin appendages. Histologically, the congenital and acquired variants of the epidermoid cyst appear similar and are hence difficult to differentiate. These cysts have been rarely reported in oral and perioral locations. Mechanism of these cysts on the oral mucosa can be explained in three ways: Mainly the epithelial cells get displaced and aggregate as a consequence of secondary trauma and form implantation sites where they further proliferate to form a cyst, uncontrolled differentiation of mucosal keratinocytes, and finally, infiltration of hair follicle origin cell into the mucosal skin through subcutaneous tissue.

Implantation cysts are also referred to as "post-traumatic cyst" because they are believed to originate through implantation of epithelium by either surgical or accidental trauma into deeper mesenchymal tissues. Most patients with epidermoid cyst
were in the range of 10–35 years of age and were predominantly males.\textsuperscript{[6]} These cysts grow slowly and painlessly and appear as firm, fluctuating swelling. They resemble pears as they have a shiny, soft, and smooth surface. Lip contains adipose tissue, connective tissue, blood vessels, nerves, and salivary glands, and hence, any lesion that may originate from these components may occur in lips. A differential diagnosis of odontogenic infection, mucocoele, lipoma, haemangioma, and lymphangiomas can be considered. Trauma or an obstruction in the minor salivary gland duct could be a common cause for extravasation mucocelles \textsuperscript{[7]} it presents as a round swelling frequently shown in children due to high exposure to trauma. 75\% of times, the lower lip is affected with the other sites being buccal mucosa, anterior ventral tongue, and floor of the mouth.\textsuperscript{[7]} Epidermoid cysts rarely disclose malignancy, but a few isolated cases of premalignant and malignant conditions such as Bowen’s disease, Paget’s disease, and squamous cell carcinoma have still been found. Dini \textit{et al}.\textsuperscript{[8]} and Ikeda \textit{et al}.\textsuperscript{[9]} have reported cases of basal cell carcinoma arising from the walls of conventional epidermoid cysts, whereas Lopez-Rios \textit{et al}.\textsuperscript{[10]} have described a patient with squamous cell carcinoma as a rare condition arising from the cystic cavity, respectively. Surgical enucleation is the only effective treatment for epidermoid cysts, and the prognosis is very good with a low incidence of relapse. Post-operative complications are rare and are reduced by closely following the capsule and its complete removal.

**Conclusion**

When compared to other cysts, epidermoid cysts are quite rare and their diagnosis and long-term follow-up are important because a minimal percentage of them have potential for malignancy in the long run. Further, new research vistas are still open for newer studies and prospects.

**References**