CASE REPORT

Epidermal inclusion cyst of buccal mucosa: A rare case report

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Abstract

Epidermal inclusion cyst also called as epidermoid cyst is the most common cutaneous cyst. Intraoral epidermoid cysts are rare and account <0.01% of cases. Epidermal inclusion cyst more specifically refers to the implantation of epidermal elements into the dermal and deeper tissues. These cysts are often asymptomatic and slow growing, but may get secondarily infected and become symptomatic. We report a case of epidermoid cyst present over the left cheek region in a 40-year-old male patient.

Keywords: Buccal mucosa, epidermoid cyst, implantation cyst

Introduction

An epidermoid cyst is a benign cyst usually associated with skin. Various synonyms used for epidermoid cyst as epidermal cyst, epidermal inclusion cyst, keratin cyst and infundibular cyst. The term sebaceous cyst should be avoided as it suggests the cysts with sebaceous origin.[1]

The inclusion cysts can be found especially in areas where embryonic elements fuse together. Epidermoid cysts can be acquired or post-traumatic. Cyst developed with trauma history is also known as implantation keratinizing epidermoid cyst. Intraoral epidermoid cysts are uncommon and involve only 0.01% of the population. These are generally encountered throughout the body, but only 7% cases seen in the oro-facial region.[2]

The purpose of this article is to discuss a case of epidermal inclusion cyst of left cheek region of 40-year-old male patient with a review of the literature.

Case Report

A 40-year-old man reported to our department with a chief complaint of swelling on the left cheek region for the last 2 years, which was gradually increasing in size. Medical history of the patient was non-significant. Intraoral and extraroral examination revealed a swelling of 3 cm × 4 cm extending from the left commissure along the occlusal plane up to first premolar region [Figure 1]. On palpation, the swelling was soft in consistency, non-tender and freely movable.

Intraorally, the overlying mucosa was normal and extraorally, the skin was pinchable, and no induration was present. Presence of prominent veins was seen over the surface of the swelling. There was no associated lymph node enlargement. A detailed case history of the patient provided no association of cheek biting with the lesion. The dental examination also revealed no relevant findings.

Provisionally diagnosis was given as lipoma. Differential diagnosis of epidermoid and dermoid cyst was given. Excisional biopsy of the lesion was planned to confirm the diagnosis.

Enucleation of the cyst was done under local anesthesia by giving a vertical incision in the cheek region [Figure 2]. The cyst was found immediately underlying the skin. Careful dissection was carried out, and the cyst enucleated [Figure 3]. Primary closure was obtained, and the specimen was sent for histopathological examination.

Histopathology revealed a cystic lumen with a thin layer of orthokeratotic stratified squamous surface epithelium with
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Figure 1: Extraoral swelling in left cheek region measuring 3 cm × 4 cm

Figure 2: Enucleation of cyst under local anaesthesia

Figure 3: Specimen showing enucleated cyst with cheesy thick fluid

Figure 4: H and E section shows cystic lumen with thin epithelium and connective tissue without any adnexal structures (×10)

Figure 5: H and E stain shows orthokeratotic stratified squamous epithelium with loose collagen fibers and keratin flakes in the lumen with prominent melanin pigment in the basal cells (×40)

Collagen fibers with fibroblasts with moderate vascularity [Figures 4 and 5]. Overall features were suggestive of epidermoid cyst. The patient was kept on regular follow-up for a period of 1-year. No signs of recurrence were noticed.

Discussion

Cyst is defined as the pathological cavity filled with fluid which is solid, semisolid or gaseous form which may or may not be lined by the epithelium. Epidermoid cyst is a cyst with an epidermal lining with a granular layer, no glandular cells, but filled with cheesy keratin material. Roser, in 1859 described the term epidermoid cyst. These cysts are dome-shaped and occur just beneath the skin. It is commonly seen in face, neck, chest or trunk. Occasionally, they are found in floor of the mouth, buccal
mucosa and other parts intraorally. They may present at birth and in old patients. Most of the cases are reported in between 15 and 35 years age group.[3]

The incidence of epidermoid cysts in head and neck has been reported from 1.6% to 6.9%. Most of the intraoral cases are reported in the midline and floor of the mouth. Rare cases are reported involving tongue, lips, uvula, temporomandibular joint, intradiploic, intracranial, maxilla and mandible and buccal mucosa.[4]

Origin of epidermoid cysts can be explained as either congenital or acquired. Congenital epidermoid cysts may result from the failure of the ectodermal layer to separate from underlying neural tube. It can also occur due to abnormal implantation of surface ectoderm along the embryologic sites of fusion such as along the eyes, ears, and face. Such accidents usually take in between 3rd and 5th week of gestation. Acquired epidermal inclusion cysts usually arise from the inclusion of epidermal structures in the dermal tissues.[5]

The exact etiopathogenesis of epidermoid cyst is not known. However, the most popular theory is “epithelial implant theory” that is epithelium being sequestered in the line of fusion of embryonic processes results in implantation of the epithelial tissue. In 1855, Werhner recognized first case of the implantation cyst.[6]

Meyer in 1955 updated the concept of epidermoid cyst in three historical variants:

Dermoid cyst: Epithelium lined cystic cavity with skin appendages such as sweat glands, hair follicles and sebaceous glands.

Epidermoid cyst: Epithelium lined cystic cavity without skin appendages.

Teratoid: Cyst cavity encloses mesodermal derivatives such as bone, muscle along with skin appendages.

Epidermoid cysts are usually diagnosed in young adults. Males are three times more affected than females.[3]

The differential diagnosis should include a variety of conditions, which can be developmental, neoplastic and infectious. Infectious conditions like odontogenic infections such as buccal space massectic space infections can be ruled out in our case as it was not associated with any clinical symptoms. Neoplastic conditions such as lipoid, salivary, and vascular lesions can also be excluded due to the benign appearance of the lesion and lack of nodal involvement. In the developmental category, an oral lymphoepithelial cyst can be considered.[5]

Laboratory studies are not necessary. However, a culture and sensitivity may be obtained when patients are not responding to antibiotics. Imaging such as ultrasonography, radiography, computed tomography scanning, or magnetic resonance imaging are required for epidermoid cyst of the unusual location such as breast, bone, or intracranial cysts. Fine-needle aspiration also used to diagnose epidermoid cysts. Wright–Giemsa stain will demonstrate nucleated keratinocytes and wavy keratin material in aspirated material. Histopathologically, epidermoid cysts are lined with stratified squamous epithelium that contains a granular layer with laminated keratin in the lumen which is similar to the features of our case. An inflammatory response may be present in cysts that have ruptured, and areas of calcification can be seen in older cysts.[8]

Common syndromes associated with epidermoid cysts are Gardner syndrome, basal cell nevus syndrome and pachyonychia congenita. Idiopathic scrotal calcinosis may presents with dystrophic calcification of epidermoid cysts.[9]

Asymptomatic epidermoid cysts do not need treatment. Inflammation can be resolved by intralesional injection with triamcinolone. Usual surgical approach in the treatment of epidermoid cyst will be simple excision if the entire cyst wall is not removed, the lesion may recur. Incision and drainage may be performed in an infected cyst.[8]

Conclusion

The present case showed no variation from the normal histopathology, but they prove to be significant, because of the variation in their anatomical presentation. Epidermoid cysts of a buccal mucosa are generally an uncommon entity. Ample understanding about this slow growing mass is essential because of the symptoms it produces and also due to the malignant potential.

References