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RESEARCH ARTICLE

EPIDERMOIDE CYST OF OUTER EAR: A RARE CASE REPORT

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ABSTRACT

Epidermoid cysts represent the most common cutaneous cysts. Epidermoid cysts are developmental, benign, cutaneous cysts which are commonly found on face followed by trunk and neck. They account for approximately 80% of follicular cysts of the skin. They are slow growing lesions and remain asymptomatic until or unless secondarily infected. They occasionally have tendency to develop into a malignancy. This article is to present a rare case of epidermoid cyst of the outer ear in a 30-year-old male patient. During clinical examination, a soft, cystic, globular, and non-tender swelling with restricted motility and well-defned margins was seen in the retroauricular region. Skin over the swelling was normal and not attached to it. The chosen treatment was total surgical removal. The histopathological findings confirmed the diagnosis of epidermoid cyst, characterized by presence of cyst cavity lined by cystic lining comprised of keratinized stratified squamous epithelium. Few sebaceous glands can also be seen. Revealing dense collagen fiber bundles interspersed with fibroblasts dense chronic inflammatory cells chiefly lymphocytes and plasma cells and endothelial lined blood vessels. Cystic lumen was filled with keratin. The proposed treatment was considered successful, as there was no recurrence.

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INTRODUCTION

Cyst is defined as "a pathological cavity having fluid, semifluid, or gaseous contents and which is not created by the accumulation of pus." Kramer (1974). Epidermoid cyst is a developmental cyst of head and neck. It is also called as epidermal cyst, epithelial cyst, keratin cyst, sebaceous cyst, milia, or epidermal inclusion cyst. Epidermal inclusion cysts are the result of implantation of epidermal elements and its subsequent cystic transformation. The term epidermoid cyst is used in general context in that, irrespective of source of the epithelium, the term persists. Milia merely represent miniature epidermoid cysts. The term sebaceous cyst sometimes is used mistakenly as a synonym for both the epidermoid cyst and another cyst of the scalp known as a pilar, tricholemmal, or isthmus – catagen cyst. However, because both the epidermoid cyst and pilar cyst are derived from the hair follicle rather than the sebaceous gland, the term sebaceous cyst should be avoided.[1]

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Epidermoid cysts represent the most common cutaneous cysts. Their histogenesis is still unclear although they are probably formed by several mechanisms, including remnant ectodermal tissue that migrates incorrectly during embryogenesis, occlusion of the pilosebaceous unit or traumatic or surgical implantation of epithelial elements.[2] Dermoid cysts are often present at birth. They are asymptomatic affecting mainly males.[3] Epidermoid, dermoid and teratoid cysts are cystic malformations lined with squamous epithelium and are classifed based on whether they are lined with simple squamous epithelium (epidermoid), or skin adnexa are found in the cystic wall (dermoid), or other tissues, such as a muscle, cartilage and bone are present (teratoid).[4] Dermoid cysts are often present at birth. They are asymptomatic affecting mainly males. They grow in a slowly way, are unilocular, and the cyst masses can cause only few symptoms, that originate from the dimensions by its growth. They are often found in the ovary and testicles, and 7% can affect the head and neck area. Although the origin of those cysts is uncertain, it is believed that is associated to the remaining pluripotent embryo tissues during the first and second bronchial arches fusion in the third and fourth weeks of intrauterus life.

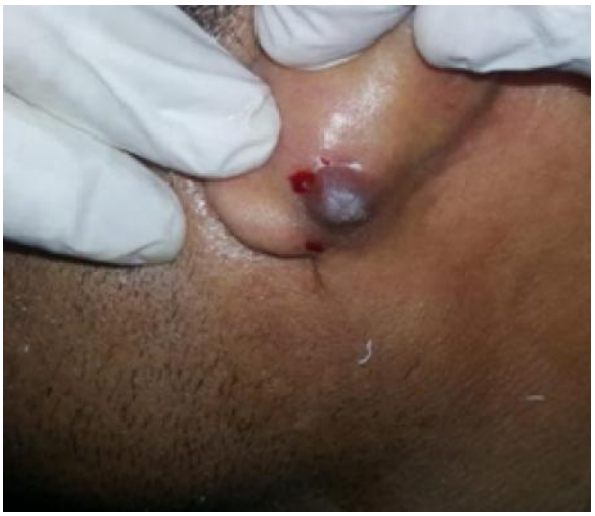

Fig 1. Post Auricular Lesion

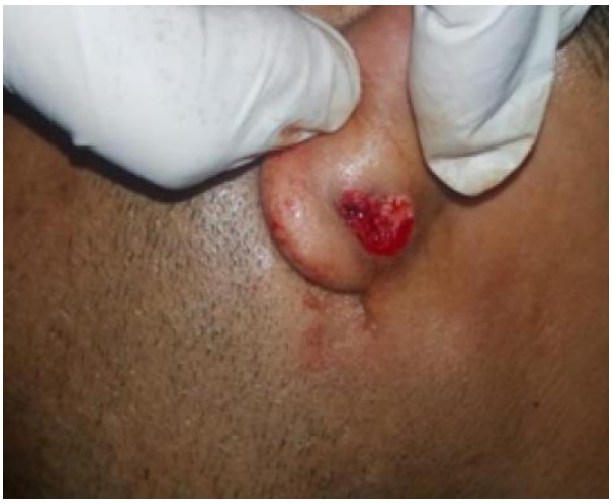

Fig 2. Surgical Excision

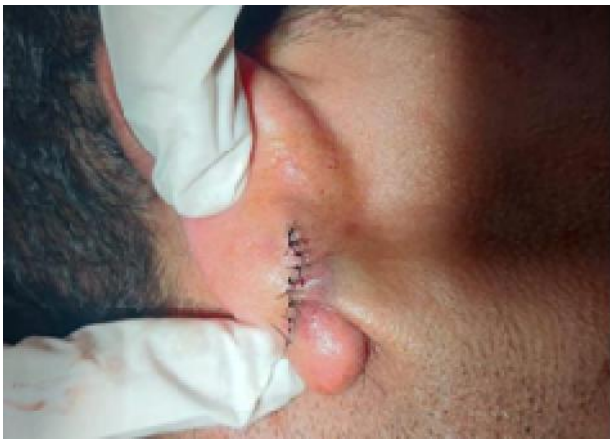

Fig 3. Post Surgical

Disorganized and difference growth of those "kidnapped" cells start from dermoid cyst.[3] While they may occur anywhere on the body, the most frequently affected areas are the face, scalp, neck and trunk.[2] Dermoid cysts can be classified into three histological types: epidermoid cyst (with no dermal annexes in its covering epithelium); dermoid (presence of skin annexes such as sweat gland cells and hair follicle) and teratoid ones (covering containing structures from the three generative layers).[3]

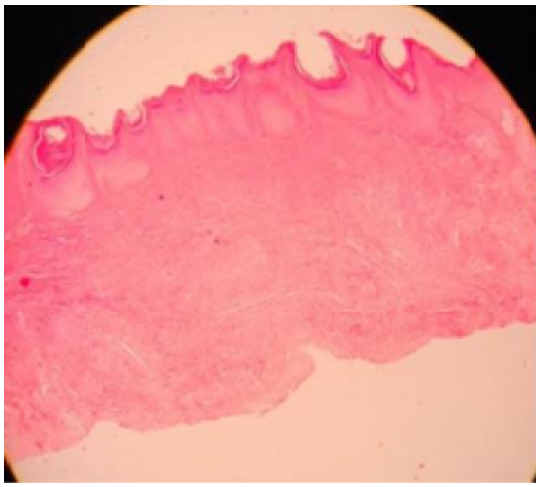

Fig 4. Photomicrograph at 4X

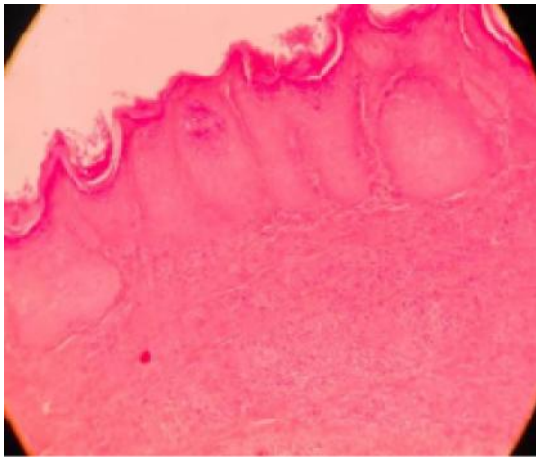

Fig 5: Photomicrograph at 10X

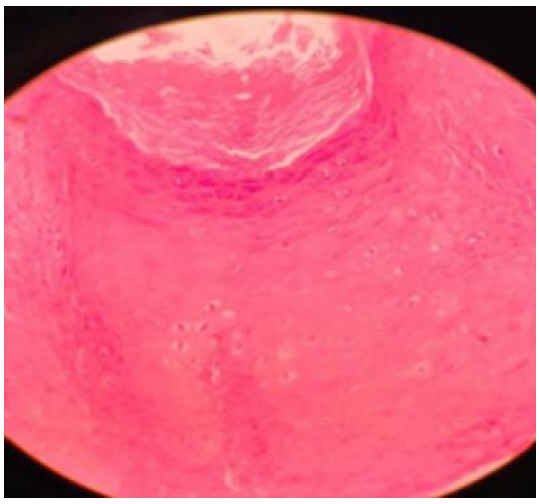

Fig 6. Photomicrograph at 40X

CASE REPORT

A healthy 30-year-old male was admitted to our outpatient clinic with longstanding postauricular mass. He had right-sided prominent ear and was keen to have the problem surgically corrected. There was no family history about any postauricular mass, and there had been no previous surgery or trauma to the auricular area. The property of this mass was round, smooth, soft and covered with normal skin.

The left tympanic membrane was not evaluated because of mass position at EAC. There was no discharging sinus or pointing abscess. There was no history of trauma, ear surgery, fever, and discharging ear. The right ear was normal. There was no record of malignant transformation of the postauricular cysts. Complete surgical excision of the postauricular extracranial cysts was carried for all the lesions. The macroscopic specimen consists of cystic lining comprised of keratinized stratified squamous epithelium. Few sebaceous glands can also be seen. Revealing dense collagen fiber bundles interspersed with fibroblasts dense chronic inflammatory cells chiefly lymphocytes and plasma cells and endothelial lined blood vessels. Cystic lumen was filled with keratin.

DISCUSSION

Epidermoid cysts are benign skin lesions. They are various other names such as epithelial cyst, epidermal inclusion cyst, keratin cyst for this cyst. Incorrect migration of remnant ectoderm tissues during embryogenesis (Congenital) or implantation of epithelium contents due to surgery or trauma (acquired) can lead to formation of epidermoid cyst. Werhner in 1855 first recognised acquired epidermoid cyst. Sutton described it as" implantation cyst" in 1895. Meyer in 1955, described three histological variants of epidermoid cyst:

Dermoid cyst: cystic cavity with lining epithelium contains skin appendages such as hair, hair follicles, sebaceous and sweats glands.

Epidermoid cyst: cystic cavity with epithelial lining without any appendages of skin.

Teratoid: cyst cavity contains mesodermal derivatives such as bone, muscle along with skin appendages. Epidermoid cysts are usually diagnosed in young adults in the age group of 20-30 years. There is a male predilection with a male to female ratio of 3:1.[5] Dermoid cysts are benign congenital lesions, situated predominantly close to the lines of embryonic fusion lines. They are postulated to originate from the congenital inclusion of ectoderm and mesoderm layers lined by stratified epithelium covered by laminated keratin material containing adnexal structures of the skin such as hair follicles, sebaceous and sweat glands, smooth muscle, and fibro-adipose tissue. These slowly expanding, unilocular, cystic masses may produce only minor symptoms.[6] Epidermal cysts of the bony EAC are uncommon, Because there are no sebaceous glands and hair follicles at the medial part of bony EAC. Significant time may be required before the diagnosis of these lesions. Our patient presented with progressive painless ear fullness lasting for about 6 months. Congenital type of epidermoid cysts may result from the implantaton of epidermal rest during the intrauterine period. Traumatc implementaton of epidermal tssues can cause traumatc type epidermoid cysts. Idiopathic type may derive from blockage of hair follicles or sebaceous glands. In our case, the epidermoid cyst of the external ear canal is thought to be an idiopathic type due to the lack of trauma history and the adult age of the patent.[7] Most dermoid cysts are usually congenital but most epidermoid cysts of the skin are acquired. Both cysts of congenital type are due to failure of surface ectoderm to separate from underlying neural tube in cases of intracranial and spinal epidermoid and dermoid cysts but result from entrapment of ectodermal tissue between the midline fusion of first and second branchial arches in the head and neck regions. Entrapment of ectodermal tissue along the embryologic sites of dermal fusion make epidermoid and dermoid cyst in the head and neck regions.[8] There is still controversy about the etiology of DCs. Three theories have been suggested regarding the explanation of pathogenesis.

According to the totipotential rest theory, DCs have been suggested to arise from totipotent cells derived from ectodermal and mesodermal germinal layers. The congenital inclusion theory proposes inclusion of germinal layers into deeper tissues of fusion lines that have failed to undergo complete closure during embryonic life leading to epithelial debris trapping. The acquired implantation theory indicates traumatic events for the implantation of germinal derivatives into deeper tissues. Although there have been some reports about inherited transmission in etiology, definite inheritance has not been clarified. Bratton et al. reported cases of a mother and her identical twin daughters who were all found to have evidence of frontal nasal dermoid cysts. The history of our case revealed that the patient's grandmother and uncle had undergone neck cyst extirpation; however, the definite pathological diagnoses of these cysts were unknown.[9] Treatment of choice is surgical removal and recurrence is seldom noticedAn unusual complication reported from an oral epidermoid cyst in oral cavity was sialadenitis due to pressure on the submandibular salivary duct. The present case underwent surgical removal of the lesion, and its success was confrmed by lack of postsurgical alterations and no recurrence of the lesion.[1]

Conclusion

A variety of congenital cystic lesions are encountered in the neck. These lesions are uncommon and are usually seen during infancy or childhood, but detection may be delayed until adulthood. Such lesions often manifest as slow-growing masses, and cause symptoms only after enlarging sufficiently or after infection. . Dermoid tumors involving the middle ear and mastoid are rare. Their presentation can be similar clinically and radiographically to congenital cholesteatoma, but they are distinct histopathologically by the presence of adnexal structures. Sinuses and fistulae are usually diagnosed at an earlier age than cysts. The clinical manifestations combined with knowledge of the embryology and spatial anatomy of the head and neck often provide clues for a correct diagnosis. Different imaging modalities are important in confirming the cystic nature of the lesion and determining the extent of the lesions in the neck for optimal preoperative planning. No matter how rare they are, dermoid cysts should be considered in the differential diagnosis of lesions in the postauricular region. We believe that, in the treatment of postauricular dermoid cysts leading to prominent ear deformity, surgical excision and correcting the deformity following the basic rules of otoplasty is crucial to achieve an esthetically acceptable outcome and excellent prognosis with no further complications.

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