



Giant Epidermal Cyst: A Case Report

KEYWORDS

Epidermal, cyst, giant, management

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ABSTRACT Epidermal cyst is a common clinical entity developing due to blockage of duct of a sebaceous gland. A giant epidermal cyst is rare and more liable to develop complications, including malignant transformation. An epidermal inclusion cyst develops due to implantation of epidermal cells in dermis, and may require additional investigations like MRI for its evaluation. Treatment of an epidermal cyst involves total excision of the cyst along with its wall to prevent its recurrence. We present here an unusual case of a giant epidermal cyst, 14 cm in greatest dimension, and review the literature regarding the same.

INTRODUCTION:

Epidermal or sebaceous cyst (also known as epidermoid or keratin cyst) is a retention cyst of sebaceous gland, occurring due to blockage of its duct. Most are benign small asymptomatic masses, occurring intradermally or just below the skin, commonly on face, neck or trunk. Epidermal cysts > 5 cm in size are called giant epidermal cysts, which are rare and more prone to develop complications. A very unusual case of a giant epidermal cyst over shoulder is presented here along with a review of the topic.

CASE REPORT:

A 45 year old lady presented with a painless small swelling over left shoulder for the last 15 years, growing progressively to reach the present size. There was no history of trauma or appearance of redness or tenderness in the swelling before. Local examination revealed a dumbbell shaped swelling measuring 14cm x7cm x6cm, over lateral part of left shoulder, extending obliquely down the left anterior pectoral region. The swelling was nontender, subcutaneous, soft, and exhibited typical pitting and moulding signs. It was not fixed to skin or underlying tissue and did not have a punctum. USG revealed cystic nature and FNAC yielded yellowish brown keratinous material. A total excision was performed of the swelling along with its capsule. The postoperative course was uneventful. The histopathological examination confirmed its nature as epidermoid cyst.

DISCUSSION :

Epidermal cysts are common in clinical practice. They are benign, intradermal or subcutaneous masses, occurring due to blockage of sebaceous duct by trauma or inflammation. Epidermal inclusion cysts occur as a result of migration of epithelial cells in dermis and their subsequent proliferation (1).

Various factors are involved in the formation of epidermal cysts. Any trauma or infection causing damage to the hair follicle can cause the blockage of the duct of this oil secreting gland. This leads to accumulation of sebum and keratinous material, a yellowish fatty cheesy substance with a characteristic unpleasant odour, in its sac. Various theories for development of epidermal inclusion cysts include implantation of epidermal cells into dermis following trauma and aberrant embryogenesis with ectodermal cells misplaced during cellular differentiation (1). High levels of testosterone are also implicated, as evident by common occurrence in males and people frequently affected with acne. Rarely, they may occur with some hereditary syndromes like Gardner's syndrome, Basal cell naevus syndrome and pancyonchia congenital (2). Up to 53% of patients with Gardner's syndrome have epi-

dermal inclusion cysts, in addition to intestinal polyposis, osteoma and thyroid nodules (1).

Epidermal cysts are usually seen in young or middle aged adults over hairy areas like face, scalp, neck, trunk, back or scrotum, with only 10% cases involving extremities (1). They are usually not present on palms and soles, although infection of eccrine glands with Human papilloma virus is implicated for development in these regions (4). They are frequently asymptomatic, small (1 -4 cm), mobile, firm to fluctuant, dome shaped lesions just below epidermis and attached to skin by a blackish or purplish punctum indicating the site of the blocked duct by keratin plug, which may not be present in case of large cysts. In our case the swelling was dumbbell shaped due to abnormal extension in one direction.

Giant epidermal cysts are rarely seen in surgical practice (7). A small cyst evolving into large one takes years, as the rate of growth is not more than 0.5 cm per year (2). They are more common in scalp, usually above a line drawn through upper part of ear lobule and occipital region. As it is asymptomatic, neglect on part of the patient for a long time in seeking medical advice leads to the formation of a giant cyst. Absence of hair on a large cyst over scalp differentiates it from a dermoid cyst. Punctum in a large sebaceous cyst is difficult to detect or absent, as more and more hair follicles overlying it getting stretched as the swelling enlarges, makes it difficult to be detected (2). Accumulation of a large amount of cheesy pultaceous material in its sac causes the typical "pitting" or "moulding" sign on palpation, by which it can be moulded in different shapes, as was evident in our case.

On histopathological examination, the epidermal inclusion cysts are characterized by a lining of stratified squamous epithelium containing a granular layer, the latter being absent in a sebaceous (trichilemmal) cyst arising from a hair follicle (1). The cyst wall can have calcification in long standing cases (2).

The differential diagnosis of an epidermal cyst includes dermoid cyst, lipoma, ganglion cyst, neurofibroma, myxoma or nodular fasciitis. Giant epidermoid cyst in groin may mimic hernia, lymphadenopathy, undescended testis or chronic abscess (2).

The largest epidermal cyst of size 17.8 x 13.8 x 5.8 cm, present in gluteal region, is reported by Mathew Houdek et al (1), while the one being reported by us, 14 cm x 7cm x 6cm in size, is also amongst the very large ones. Wani (3), Machid (6) and Solako (7) have reported giant epidermal cysts over scalp, perineum and sternum respectively.

Complications of sebaceous cysts include – (a) Infection: Once infected, the swelling becomes warm, reddish and tender and may be accompanied by fever and tachycardia. If untreated, it may lead to abscess formation. (b) Cock's peculiar tumour : Pressure on skin by a growing giant cyst may lead to thinning of skin causing necrosis and rupture, with slow escape of its contents outside, evoking a foreign body giant cell reaction, which with superadded infection, gives the appearance of an ulcerative granuloma looking like a squamous cell carcinoma, This has derived the name of Cock's peculiar tumour (11), although it is a misnomer, as it is not a neoplasm. (c) Development of malignancy : A long standing giant cyst has the propensity to develop into a well differentiated squamous cell carcinoma. Oztec et al(7) and Bauer BS et al(9) have found an incidence of 0.77% and 2.2% respectively, while Cameron et al (10) found carcinoma only in one case among 2246 cysts. It is suggested by a recent change in character like rapid growth and ulceration. Basal cell carcinoma has been found in 15% of cases of carcinoma (5). Other malignancies which may develop include mycosis fungoides, melanoma (2), merkel cell carcinoma and metastatic carcinoma (4). Long standing cysts, trauma, prolonged chronic inflammation and infection are the predisposing factors for the development of malignancy. Most of the malignant sebaceous cysts are found in elderly and 91.4% of them are located in head and neck region (5).

Diagnosis of epidermal cyst is confirmed on FNAC which shows the nature of the contents. Other modalities for diagnosis of epidermal inclusion cysts include - (a) USG: Usually done for suspected cysts in breast, showing a well circumscribed hypoechoic solid mass. (b) MRI: Usually shows a combination of mixed high and low signal intensity on T2-weighted images due to keratin debris layer. This heterogeneity helps to differentiate them from other fluid filled masses such as ganglion cysts, which typically have a homogenous signal. Ruptured cysts frequently show septation and thick irregular peripheral rim of enhancement due to inflammatory reaction in dermis due to giant cell mediated immune response (1).

Occurrence of sebaceous cysts can be prevented by avoiding too much sun exposure, preventing use of oily skin products which can clog the skin pores, and keeping proper hygiene along with the use of antibacterial soap.

Treatment of an uncomplicated sebaceous cyst consists of its total excision along with capsule, by an elliptical incision including the punctum, to avoid the recurrence. An appropriate cosmetic closure of the defect may require raising adequate skin flap in case of giant cysts. However, even if the entire wall is removed, some reports have noted a recurrence rate of 3% (1). An infected sebaceous cyst is first treated with antibiotics, followed by incision and drainage of abscess if present, along with avulsion of the cyst wall. Any suspected malignancy should be treated by a wide excision of the cyst along with 1-2 cm margin of the surrounding tissue. Im-

mediate lymph node dissection is not necessary, although a marked anaplastic growth may justify it (5). With adequate treatment the prognosis is good. It is advisable to subject all the giant cysts for histopathological examination to exclude the possibility of malignancy.

CONCLUSION:

Giant epidermal cysts are rare clinical curiosities, more likely to develop into complications including malignancy. Treatment of a sebaceous cyst is its total excision along with capsule. We have presented a rarely encountered case of a giant epidermal cyst over shoulder where a total excision was performed, one of the few cases presented in literature till date.



Fig. 1: Clinical photograph of giant epidermal cyst



Fig 2: Operative photograph of giant epidermal cyst

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