

CASE SERIES – GIANT EPIDERMAL INCLUSION CYST OF GLUTEAL REGION AND CHEST

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Abstract

Epidermal cyst is the most common type of cyst to occur in subcutaneous tissue. It is usually small, asymptomatic, and solitary in lesion. When the size is greater than 5 cm, it is classified as a giant epidermal cyst. If the size is big, it may sometimes mimic a soft tissue sarcoma, hence requiring further evaluation with imaging or histopathological studies. We report a case series of two patients whom presented with a huge swelling at different body regions, involving gluteal and chest. Both patients underwent different modes of imaging to delineate the anatomical extent of the lesion. Excision biopsy was done and the histopathological report confirmed epidermal cyst with no malignancy. The purpose of this case series is to describe the rare occurrence of giant epidermal cyst and to elaborate the methods of approach to arrive at the diagnosis.

Keywords: Giant Epidermal Cyst, Inclusion Cyst, Soft Tissue Sarcoma

Introduction

A cyst is an epithelium-lined cavity usually filled with products of epithelial secretion or contain cell breakdown which have undergone degeneration. Epidermal cyst is an intradermal cyst and can be found on any skin surface, where there is presence of hair follicle. The commonest site of occurrence is on the scalp and it can be either solitary or multiple. The range of size can extend from a few millimetres to several centimetres. A giant epidermoid cyst is defined as a cyst when its dimension is more than 5 cm (1).

Clinically, the presentation is always as a painless mobile swelling unless it causes disruption into the surrounding tissue or intense inflammatory reaction. When this occurs, the cyst will be tender, warm and erythematous such as in an infected cyst. Sometimes, there is presence of secondary infection, especially by skin commensal (i.e. *Staphylococcus*) leading to inflammation.

An uninfected cyst is excised carefully to ensure all abnormal epithelial elements are removed, to prevent from recurrence. In the case of an infected cyst, the contents are best drained initially until the inflammation process subsides. Subsequently, it can be excised completely.

Case Report

Case 1

We report a case of a 52-year old lady, with no underlying medical illness, presented to us with a history of swelling at her right gluteal region for the past 20 years. She described the swelling as initially small, and progressively increased in size over the past 5 years. She denied any constitutional symptoms and no trauma to the site of lesion prior to occurrence of the swelling.

Clinically the patient was not septic. Physical examination revealed there was a swelling at the inner lower quadrant of the right gluteal region. The swelling was 10 x 8 cm in dimension, soft in consistency, non-tender, normal body temperature, and the overlying skin was normal. It was located approximately 1 cm lateral to the anal verge (Figure 1). Digital rectal examination was performed and there was no mass palpable in the rectum.

Patient underwent magnetic resonance imaging (MRI) of her pelvis and revealed findings of well-defined non-enhancing encapsulated cystic lesions in the subcutaneous layer of the right gluteal region, with the size of 7.7 x 5.9 x 7.6 cm (Figure 2). The lesion demonstrated hypointensity

on T1W and hyperintensity on T2W images. There was no extension into the muscle or rectum (Figure 3). Excision biopsy with primary closure was done and histopathology report showed 8 x 7 x 7.5 cm cyst, with its wall lined by keratinized squamous epithelium and intact granular layer.



Figure 1: Clinically the mass is situated at the lower and inner quadrant of the right gluteal region



Figure 2: T2W images on MRI showed hyperintense mass at the right gluteal region measuring approximately 7 cm

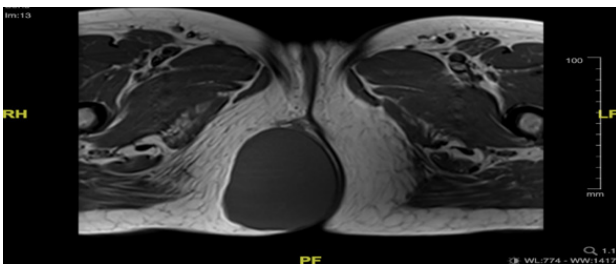


Figure 3: Similar images on MRI show hypointense on the T1W images. There is no extension into the muscle or rectum

Case 2

The second case is a 64-year old gentleman with underlying diabetes mellitus, hypertension and ischemic heart disease, presented to us with a history of swelling at the posterior back for a few years. There was no history of trauma to the site of lesion and no constitutional symptoms.

Clinically, there was a swelling 14 X 12 cm at the right posterior part of the chest which was firm in consistency, not fluctuant and overlying skin was normal (Figure 4). Patient underwent CT scan thorax and the finding revealed cystic lesion size 12 x 10 cm at the posterior lateral part of the chest wall with no extension into the thoracic cavity (Figure 5).



Figure 4: Clinically the mass is around 12 x 14 cm situated at the right posterolateral chest wall

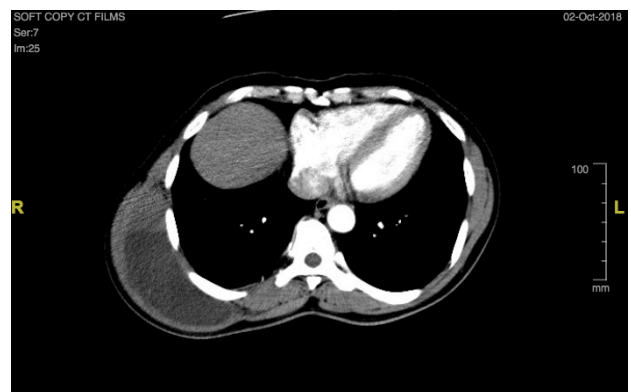


Figure 5: CT Thorax image showed cystic mass which measures 12 x 10 cm, with no intrathoracic extension

He subsequently underwent excision biopsy with primary closure (Figure 6a and 6b) and histopathology report showed a cyst with stratified squamous epithelium lining containing keratin and no malignancy seen. Postoperatively, patient recovered uneventfully and was well during the subsequent follow up at the clinic.

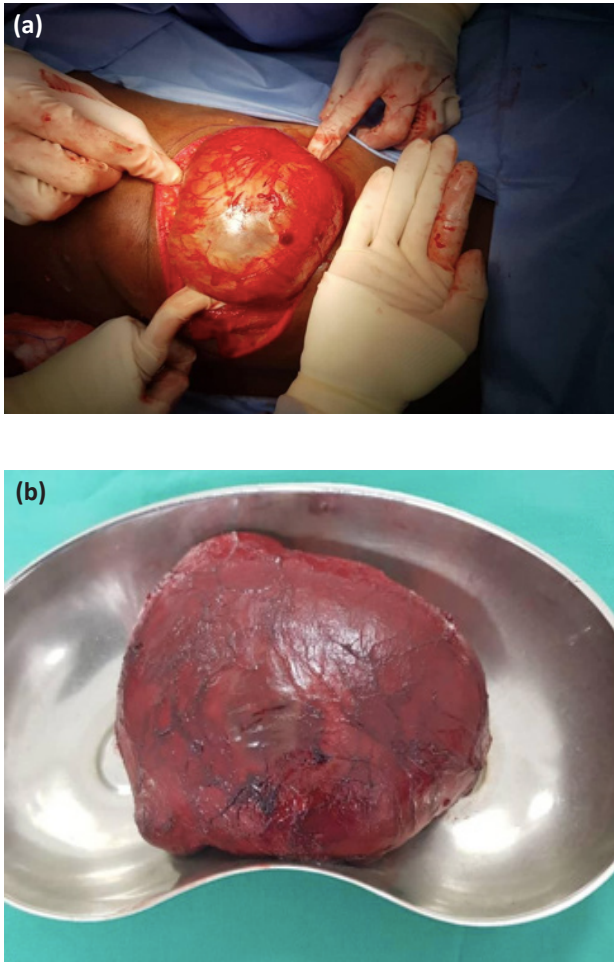


Figure 6: (a) Intraoperatively, during dissection and (b) removal of the mass from the subcutaneous plane

Discussion

Theoretically, epidermal inclusion cysts are slow growing lesions and also known as sebaceous or epithelial cyst. The etiology of epidermal cyst is due to migration of epidermal cells into the dermis, which subsequently proliferate, collecting debris and keratin, hence leading to the formation of the cystic space (2). It is usually lined by stratified squamous epithelium and contains keratin. Clinical presentation is generally a small, solitary, asymptomatic swelling, associated with a punctum and has a predilection to occur on the face, neck and scalp. Generally, the size of an epidermal cyst is less than 5 cm, and when the size is beyond that, it is recognized as a giant epidermal cyst.

Giant epidermal cysts are rarely seen in surgical practice nowadays, partly attributed to early seeking of medical

attention when the size is small in initial presentation. The clinical diagnosis of epidermal cyst is usually uncomplicated especially when it is small in size and associated with a punctum. On the other hand, the dilemma occurs when the size of epidermal cyst is huge and may mimic a soft tissue sarcoma, hence requiring further evaluation with imaging studies.

Ultrasonography is usually the first line of imaging that is commonly performed in view of easy accessibility, inexpensive and no radiation (3). This modality is beneficial in certain cases of epidermal cyst, especially small size and which occurs in the breast. Ultrasound findings commonly show well-circumscribed and hypoechoic mass. The heterogeneity sometimes can be variable in view of the presence of internal debris, such as keratin or due to calcification.

On the other hand, MRI is frequently used to assess the larger cyst, where there is the concern of malignant feature. The imaging features of epidermal cyst on MRI are determined by the degree of cyst maturation, its concentration and the amount of keratin within it. On MRI, an unruptured cyst is well-encapsulated and exhibits hypointense signal on T1-weighted image, and appears hyperintense to intermediate in signal intensity on T2-weighted image (4). Epidermal inclusion cysts may also have a combination of a mixed high and low signal intensity on T2-weighted images, due to presence of the internal keratin debris within it. Ruptured cyst will have similar signal intensity on T1 and T2-weighted images, but frequently with additional features of septations, thick irregular rim enhancement and perilesional enhancement.

On histopathological examination, epidermal cyst is lined by stratified squamous epithelium with preserved granular layer and loosely woven lamellated keratin. Epidermal cysts are frequently benign lesions and malignant transformation is an uncommon occurrence, which ranged from 0.011 % to 0.045 % (5).

Treatment of epidermal cyst depends on the symptoms and the size of the lesion. If the epidermal cyst is small and asymptomatic, conservative management is opted, unless there is complication. Larger lesion especially giant epidermal cyst will require surgical excision with soft tissue reconstruction if necessary for wound closure. Precaution is needed during excision to prevent spillage of the contents into the surrounding tissue, as this will increase the possibility of inflammatory reaction. Furthermore, complete excision of the sac and its contents is vital to prevent chronic inflammation and recurrence in the future. However, there is a reported incidence of 3% recurrence rate despite complete removal of the cyst (6).

Conclusion

Giant epidermal cyst is an inclusion cyst which needs imaging modality as part of the diagnosis process, as it sometimes can mimics soft tissue sarcoma.

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Competing Interests

The authors declare that they have no competing interests.

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