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Case Report

Epidermal inclusion cyst of the axilla with calcifications [☆]

Eman Abu-Mandeel, MD^a, Ahmad Saadeh, MD^{b,*}, Hammam Rababaa, MD^b, Mohammed S. Al-Share, MD^c

^aRadiology Department, Ministry of Health, Amman, Jordan

^bThe University of Jordan, Faculty of Medicine, Amman, Jordan

^cGeneral Surgery Department, Ministry of Health, Amman, Jordan

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ABSTRACT

Epidermal inclusion cyst (EIC) is a benign mass that may occur in any area of abundant hair. It presents as a slowly growing firm nodule that is mostly asymptomatic. It may be confused with malignancy, making a definitive preoperative diagnosis difficult. Herein, we present a case of a 41-year-old patient with an EIC of the axilla containing calcifications on the mammogram.

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Introduction

Epidermal inclusion cyst (EIC) is a frequent benign mass of the skin [1]. It consists of sebaceous materials, keratin debris, and cholesterol, and the cyst wall consists of squamous epithelium [1,2]. EIC can present anywhere with abundant hair, which tends to occur in the back, trunk, neck, and head [1]. However, it may occur more in sites of preceding surgery or injury [2]. EIC commonly presents as an asymptomatic lesion that is firm, dome-shaped, and slowly enlarging [3]. Although diagnosing EIC is easy when it is small and subcutaneous, mammography and sonography can misinterpret it with other benign or malignant lesions [4]. Herein, we present a case of a

41-year-old patient presenting with an axillary EIC with calcifications on the mammogram.

Case presentation

A 41-year-old patient presented to the clinic complaining of a right axillary mass for 20 years. The mass has been slowly increasing in size for the past 1.5 years. The patient was vitally stable apart from an elevated blood pressure (155/93), for which she takes Losartan. The mass was large, firm, attached to the skin, and painless on physical examination, with no skin changes, erythema, or systematic symptoms. Labo-

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* Corresponding author.

E-mail address: ahmadsaadeh97@hotmail.com (A. Saadeh).

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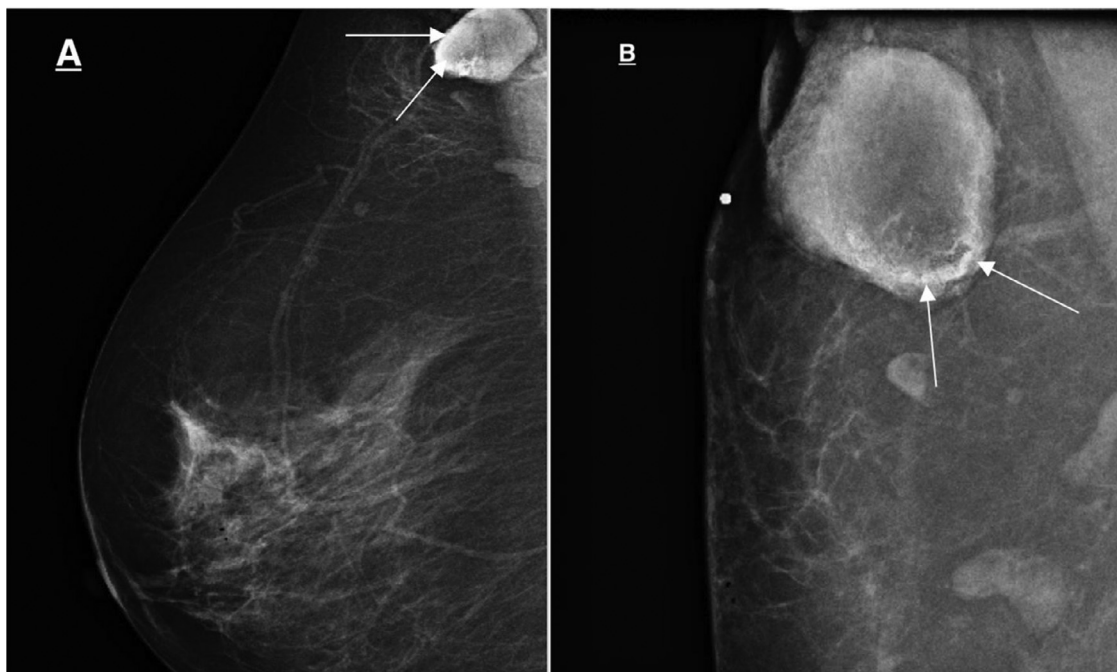


Fig. 1 – Right, true lateral (A) and magnification (B) mammogram views. There is an oval circumscribed high-density mass with a hypo-dense center in the subcutaneous tissues of the right axilla that measures 3 × 3.4 × 3.2 cm (anteroposterior, mediolateral, cephalocaudal, respectively), with peripheral rim calcifications (B).

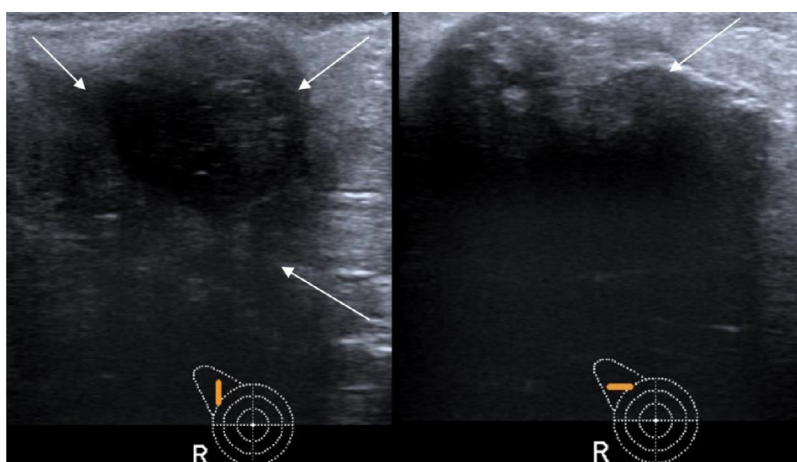


Fig. 2 – There is an oval, partially circumscribed heterogeneous hypo-echoic subcutaneous mass in the right axilla. Moreover, it shows high spectral internal foci corresponding to calcifications on mammograms and causing excessive posterior acoustic shadowing.

ratory tests were normal. Mammography was ordered, which showed an oval circumscribed high-density mass with a hypo-dense center subcutaneously in the axilla with peripheral rim calcifications (Fig. 1). No other breast pathology was detected on the mammography. An oval partially circumscribed subcutaneous mass in the right axilla with posterior acoustic shadowing was seen on ultrasound (Fig. 2).

The patient was referred to the general surgery department for surgical resection of the mass. A histopathology examination of the excised mass showed a cyst wall lined by stratified squamous epithelium devoid of a granular layer. The cyst content is composed of laminated keratin layers (Fig. 3). The

diagnosis of an EIC of the axilla was confirmed, and the patient was doing well in multiple follow-up visits. In addition, she was recommended to adhere to breast cancer screening protocols.

Discussion

Epidermoid cyst refers to benign cysts that result from the proliferation and implantation of epidermal components within the dermis or an occluded pilosebaceous follicle. These cysts

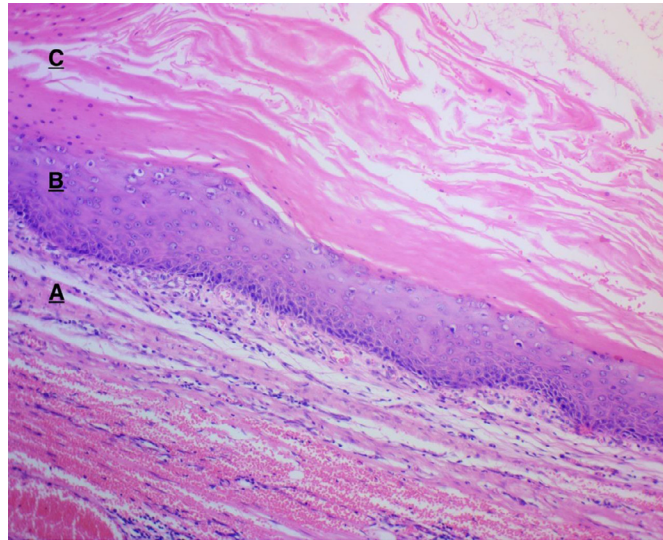


Fig. 3 – A histopathology section stained with hematoxylin and eosin showing: (A) cyst wall, (B) squamous lining, and (C) laminated keratin layers.

can occur anywhere in the body, though they commonly involve the scalp, face, and trunk. However, an epidermoid cyst in the axilla is rare and has been mentioned only in one previous case [4,5].

Different mechanisms are supposed to explain the pathogenesis behind such cysts. Congenital or sporadic obstruction of the hair follicle sounds like the most plausible mechanism in our case, given there was no history of previous trauma, surgery, or lesion in the axilla [6].

An epidermoid cyst in the axilla is clinically presented as a slowly growing firm, nodular lump from the skin, sometimes with a central punctum. They may be confused clinically and radiologically with different benign and malignant lesions, and correct preoperative diagnosis may be difficult [5].

Mammographic appearances of EIC are typically benign & usually demonstrate a well-circumscribed mass with homogeneous increased density. However, sometimes the EIC finding on mammography may be challenging to distinguish from breast cancer, especially with superficial mass or irregular shape or architectural distortion [5,7]. In our case, the mass was benign features. However, EIC in our case had peripheral rim calcifications, which stand out from other cases.

Because of its easy availability, cost-effectiveness, and absence of radiation exposure, ultrasound is considered the first study for superficial soft tissue lesions. The US can identify and delineate the lesion in the axilla and distinguish the lymph node from other soft tissue masses. The unruptured epidermoid cyst has certain distinctive features in the US—such as an oval shape and a subcutaneous site with a well-defined margin—that can provide a correct preoperative sonographic diagnosis before performing a biopsy [5,8].

On histopathology, epidermoid cysts are characterized by a transparent background with a lining of stratified squamous epithelium containing an agranular layer [5].

An unruptured epidermoid cyst may be treated with surgical resection (total excision along with its capsule by an el-

liptical incision encircling the punctum) or with observation based on the patient's symptoms. The recurrence rate despite complete surgical excision of the cyst is 3% [1].

Conclusion

EIC is a frequent benign lesion with mostly an asymptomatic course. It is uncommon to present in the axilla, and it can easily be misdiagnosed as a malignant mass. Treatment depends on the symptoms, and it varies from observation to surgical resection of the cyst.

Patient consent

A written informed consent for this case report was obtained from the patient.

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