Case Report

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The Great Mimicker: Unique Presentation of Epidermal Inclusion Cyst on the Breast

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ABSTRACT

Epidermal inclusion cysts (EIC) are common cutaneous cysts that can occur nearly anywhere in the body with common locations being the face, scalp, neck, back, and scrotum. Only a few cases of EIC to the breast have been reported in literature to date, with most occurring after trauma to the breast. Here we present the case of a 35-year-old woman that presented with a nontraumatic nipple lesion that was later biopsy proven to be an EIC. Although not a primary consideration, EIC should be on the differential for skin lesions of the nipple.

Introduction

Epidermal inclusion cysts (EIC) are common keratin-containing benign cysts lined by the epidermis. EICs arise from sequestered epidermal cells in the dermis, either congenitally or from traumatic implantation, and are the most common cutaneous cysts, which can occur anywhere on the body. The breast is an uncommon site for post-traumatic EIC, and only a few cases have been reported to develop following penetrating injuries in adult patients. The most common locations are the face, scalp, neck, back, and scrotum. Inclusion cysts found in large numbers or locations like the extremities, trunk, or the back of the ears may be seen in Gardner syndrome, in which the cysts will often appear before the onset of puberty and may even precede the onset of colonic polyposis. They are more common in men than women, with a ratio of 2:1. They occur more frequently in patients in their 20s to 40s [1-4].

The main presentation is the appearance of a freely movable cyst, often with a visible central punctum or a nodule directly underneath the skin. The size of a cyst can range from a few millimeters to several centimeters in diameter. Lesions may remain stable or progressively enlarge. There is no predictive modality

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to tell if an epidermal inclusion cyst will enlarge, become inflamed, or remain quiescent. An infected cyst tends to be large with increased erythema [1].

Case Presentation

A 35-year-old Hispanic female patient with hypertension presented with a suspicious skin lesion in the right nipple area for approximately one year. The lesion appeared spontaneously and was not associated with systemic symptoms or known trauma to the area. The patient said that she was able to express a thick whitish discharge from the lesion after squeezing, with temporary flattening. However, the lesion would never completely resolve. She denied a family history of breast malignancy. On physical exam, the right nipple revealed a nontender, skin-colored lesion measuring approximately 9 mm in length (Figure 1).

Mammography showed heterogeneously dense breasts bilaterally with an exophytic mass about the right nipple (Figure 2). Ultrasound demonstrated an exophytic round mass along the superficial border of the right nipple, measuring up to 9 mm, with peripheral internal vascularity on color imaging (Figure 3). A punch biopsy was performed that microscopically showed a nodular fragment of tan-brown, verrucoid skin tissue measuring 0.6 x 0.5 x 0.4 cm. Pathology revealed an epidermal inclusion cyst. The patient's symptoms resolved, and she was advised to follow up as needed.

Fig. 1. Well-defined, skin color, round lesion arising from the right nipple.

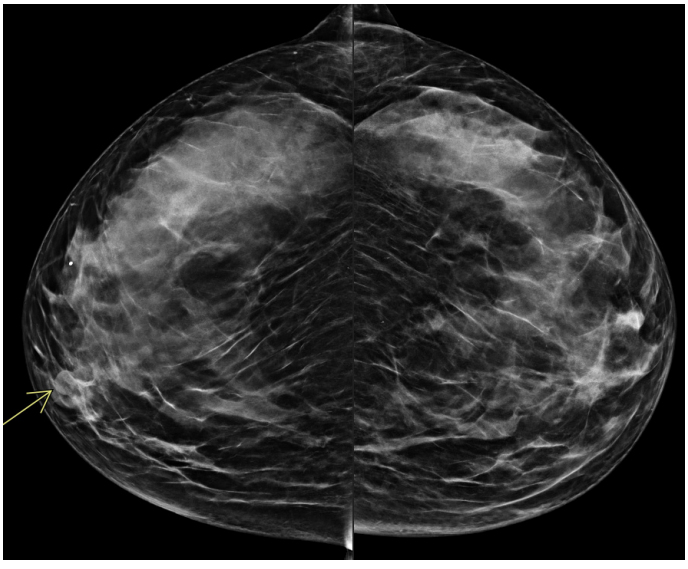

Fig. 2. Bilateral mammogram (CC views) shows right nipple exophytic lesion (yellow arrow).

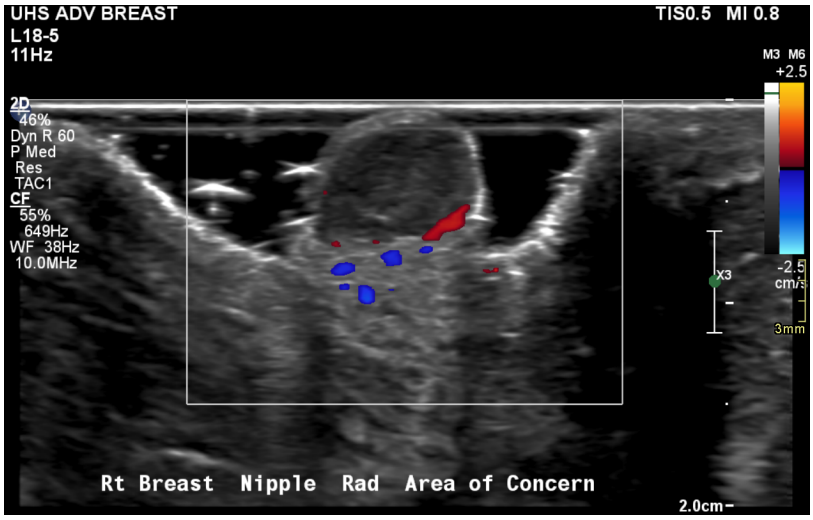

Fig. 3. Exophytic round mass along the superficial border of the right nipple, measuring up to 9 mm, with peripheral internal vascularity on color imaging.

Discussion

Although epidermal inclusion cysts are the most common skin lesions, EIC in the nipple is rarely found in the literature, being more commonly described after trauma to the area [2]. Therefore, nipple EIC should be treated as a diagnosis of exclusion. It is extremely important to consider other common differentials such as Paget's disease, seborrheic keratosis, breast melanomas, and benign moles [5]. The definitive treatment is the complete surgical excision of the cyst with its walls intact, which prevents recurrence. Excision is best accomplished when the lesion is not acutely inflamed. An alternate surgical option is to utilize punch biopsy with the expulsion of the intact cyst through the defect. Regardless of the option chosen, removal of the entire cystic wall is necessary to decrease recurrence. For patients who wish to have a more conservative treatment in the setting of acute infection, the cyst can be drained, and the patient started on oral antibiotics with a plan for surgical excision at a later date. Complications of epidermal inclusion cysts before definitive management can occur due to rupture and may result in symptoms such as erythema, pain, swelling, and localized cellulitis. The main complication seen in clinical practice is recurrence due to incomplete excision. Overall, there is an excellent prognosis after complete excision of all cystic contents and the cystic wall [1].

Conclusion

Epidermal inclusion cysts in the nipple area are rare and should be considered a diagnosis of exclusion with an excellent prognosis.

Ethical Considerations

Compliance with ethical guidelines

There were no ethical considerations to be considered in this article.

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Conflict of Interests

The authors have no conflict of interest to declare.

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