

Unmasking the Unexpected: A Rare Pilomatrixoma Presenting as a Breast Mass

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Abstract

Case Report

Pilomatrixoma is a benign skin neoplasm originating from hair follicle matrix cells, most commonly found in the head and neck region. Its occurrence in breast tissue is rare. This case report describes the management of a 44-year-old female with a palpable breast mass following trauma. Imaging and biopsy confirmed pilomatrixoma. Surgical excision was performed via an areolar incision with no postoperative complications. Regular follow-up, including breast imaging, was advised. This case emphasizes the importance of considering pilomatrixoma in the differential diagnosis of breast masses, particularly in patients with trauma history. It highlights the value of appropriate imaging and histopathological evaluation to ensure accurate diagnosis and treatment.

Keywords: Pilomatrixoma, breast mass, benign breast tumor, breast surgery, breast neoplasms.

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INTRODUCTION

Pilomatrixoma, arising from hair follicle matrix cells, is most frequently found in the head, neck, and upper extremities. Though typically a subcutaneous nodule, its occurrence in the breast is extremely rare. Given the rarity, it is often misdiagnosed as common breast lesions such as fibroadenomas or malignancies [1-3] (Figure 1). This case report details a rare presentation of pilomatrixoma in a 44-year-old woman, focusing on the diagnostic process, surgical management, and follow-up.

CASE REPORT

A 44-year-old female presented with a palpable left breast mass noticed after a trauma to the right breast one year prior. Initial mammography and ultrasound findings were suspicious, leading to a biopsy confirming pilomatrixoma (Figure 2). Her gynecological history was unremarkable, she had two children and breastfed for a total of two years. Physical examination revealed a firm, well-circumscribed, 2 cm nodule in the upper inner quadrant of the left breast.

Following imaging and biopsy results, surgical excision was planned. Informed consent was obtained, and the procedure was performed through an incision

around the areola. The mass, a well-defined, round nodule, was excised without complications. Hemostasis was achieved, and absorbable sutures were used. Postoperative recovery was uneventful, with minimal discoloration at the surgical site. The patient was advised to continue regular breast imaging for future monitoring.

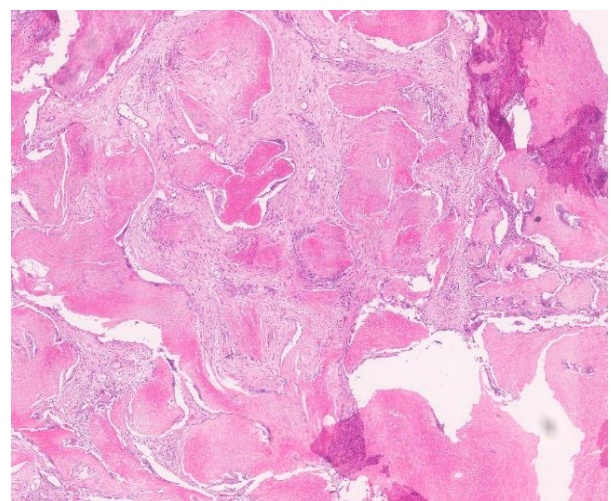


Figure 1: Histological section of the excised breast mass, showing basophilic cells and calcification, characteristic of pilomatrixoma (H&E, 40x)

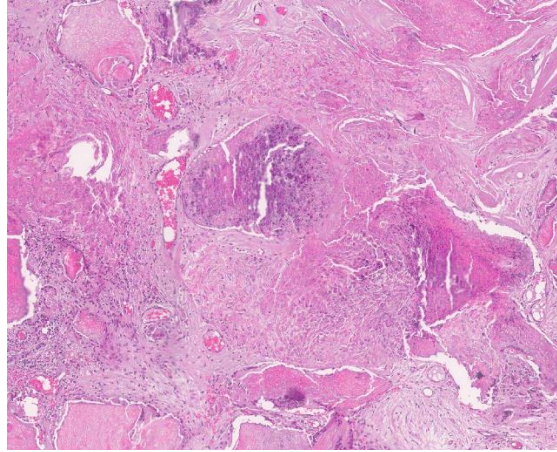


Figure 2: Higher magnification showing basophilic cells and central calcification typical of pilomatrixoma (H&E, 100x)

DISCUSSION

Pilomatrixoma is a benign tumor originating from hair matrix cells, typically presenting as a firm, mobile nodule in children or young adults, and commonly affecting the head, neck, or upper extremities. Its presentation in the breast is exceedingly rare and can mimic other common breast pathologies like fibroadenomas or malignancies [6, 7].

In this case, the patient's lesion was evaluated and diagnosed following the standard approach for breast masses: clinical examination, imaging assessment, and biopsy. Histopathological evaluation confirmed the diagnosis, and surgical excision is considered the treatment of choice, offering an excellent prognosis with low recurrence rates [8].

While the literature on pilomatrixoma of the breast is sparse, this case highlights the need to consider this rare entity in the differential diagnosis of breast masses, especially in cases involving firm, well-circumscribed lesions. Early recognition of pilomatrixoma can prevent unnecessary aggressive interventions.

CONCLUSION

Pilomatrixoma, though rare in the breast, should be considered in the differential diagnosis of breast masses. Surgical excision in this case led to a favorable outcome with no complications or recurrence. The patient will continue with regular breast imaging for long-term follow-up. This case underscores the importance of recognizing rare breast pathologies and tailoring treatment accordingly.

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DECLARATIONS

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REFERENCES

1. Durell, J., Edwards, A. J., & Green, M. (2020). Pilomatrixoma: A rare breast tumor. *Breast J*, 26(3), 486-488. doi:10.1111/tbj.13792.
2. Lee, Y., Cho, J., & Kim, H. (2021). Pilomatrixoma of the breast: A case report and literature review. *J Breast Cancer*, 24(4), 485-490. doi:10.4048/jbc.2021.24.e45.
3. Kumari, M., Kumar, A., & Roy, A. (2019). Pilomatrixoma presenting as a breast mass: A rare case report. *Int J Surg Case Rep*, 65, 303-305. doi:10.1016/j.ijscr.2019.01.004.
4. Meara, M., Breen, C., & Travers, A. (2018). Pilomatrixoma in adults: A case series and review of the literature. *J Clin Dermatol*, 37(4), 378-382. doi:10.1016/j.jaad.2018.06.058.
5. Li, Z., Gao, J., & Chen, Y. (2020). Pilomatrixoma in uncommon locations: Clinical and pathological features. *Ann Diagn Pathol*, 49, 151620. doi:10.1016/j.anndiagpath.2020.151620.
6. Firoz, T., & Watson, P. (2021). Breast pilomatrixoma: A case report and review of the literature. *Breast*, 56, 42-44. doi:10.1016/j.breast.2020.11.007.
7. Cho, T., Lee, K., & Park, J. Pilomatrixoma of the breast masquerading as a breast malignancy: A case report. *Medicine (Baltimore)*, 100(19). doi:10.1097/MD.00000000000025912.
8. Córdova, J., Carlos, A., & Mota, J. (2019). Pilomatrixoma: A case series and review of the literature. *J Clin Aesthet Dermatol*, 12(7), 45-48.