

Case Report

ADENOLIPOMA OF THE BREAST MIMICKING A PHYLLODES TUMOR IN A POSTMENOPAUSAL WOMAN: A CASE REPORT**Divya D¹, Murugaiyan E², Priyadharshini L³, Monisha S⁴, Deepana P⁵, Rajkumar P⁶**

Received : 23/04/2026
 Received in revised form : 14/06/2026
 Accepted : 28/06/2026

Keywords:

Adenolipoma, breast hamartoma,
 fibroepithelial lesion, phyllodes tumor,
 histopathology, immunohistochemistry.

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DOI: 10.47009/jamp.2026.8.4.191

Source of Support: Nil,
 Conflict of Interest: None declared

Int J Acad Med Pharm
 2026; 8 (4); 1139-1142



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ABSTRACT

Adenolipoma of the breast, also known as breast hamartoma, is a rare benign lesion composed of a disorganised admixture of glandular, fibrous, and adipose tissue. Due to its overlapping clinical, radiological, and cytological features, it may mimic fibroepithelial lesions, leading to diagnostic challenges. We reported the case of a 75-year-old postmenopausal woman who presented with a large, painless, well-circumscribed breast mass clinically suspected to be a phyllodes tumor. Trucut biopsy suggested a fibroepithelial lesion. Following a simple mastectomy, histopathological examination revealed a well-encapsulated lesion composed of ducts and lobules embedded in abundant mature adipose tissue and fibrous stroma, without atypia or stromal overgrowth. Immunohistochemistry demonstrated cytokeratin positivity in epithelial cells and p63 and S-100 positivity in myoepithelial cells, confirming the benign nature of the lesion. This case highlights the importance of recognising adenolipoma to avoid misdiagnosis and unnecessary aggressive management.

INTRODUCTION

Adenolipoma of the breast, also referred to as a breast hamartoma, is a rare benign lesion characterised by a disorganised admixture of normal breast components, including ducts, lobules, fibrous stroma, and adipose tissue.^[1] It accounts for approximately 0.1–0.7% of all benign breast lesions and is often underrecognized due to its nonspecific clinical and radiological presentation.^[2] Clinically, it typically presents as a painless, well-circumscribed, mobile mass that may mimic more common benign lesions such as fibroadenoma or phyllodes tumour.^[1,3]

Radiologically, adenolipomas demonstrate a characteristic appearance of a well-defined mass containing both fat and soft tissue elements surrounded by a thin pseudocapsule; however, these features are not always definitive, leading to diagnostic ambiguity.^[1,4] Histopathological examination remains the gold standard for diagnosis, revealing a mixture of glandular and adipose tissue in a disorganised architecture, often described as a “breast within a breast” pattern.^[5]

Despite being benign, adenolipomas are of clinical importance because they can closely resemble fibroepithelial lesions both clinically and on core biopsy, potentially leading to misdiagnosis and overtreatment.^[1,2,6] Most reported cases occur in premenopausal women, and large lesions in elderly patients are relatively uncommon.^[1,2,7,8] The present

case is notable due to its occurrence in a 75-year-old postmenopausal woman, its large size, and its preoperative misinterpretation as a phyllodes tumour, highlighting the diagnostic challenges associated with this entity.

Case Report

A 75-year-old postmenopausal woman presented with a one-year history of a painless, slowly enlarging lump in her right breast. There was no history of nipple discharge, skin changes, or systemic symptoms. She had no significant personal or family history of breast disease.

On physical examination, a single, firm, mobile, and well-circumscribed mass measuring approximately 10 × 8 cm was palpated in the right breast. There was no associated axillary lymphadenopathy.

Mammographic evaluation revealed a well-circumscribed, lobulated mass suggestive of a benign lesion. Based on clinical and radiological findings, a provisional diagnosis of phyllodes tumor was made. A trucut biopsy was performed, which was reported as a fibroepithelial tumor. Subsequently, the patient underwent a right-sided simple mastectomy.

Gross Examination

We received a simple mastectomy specimen, which revealed a well-encapsulated, oval mass measuring 10 × 8 × 6 cm. The external surface was smooth and well-defined. On the cut section, the lesion appeared predominantly yellow, with focal areas of

hemorrhage and interspersed grayish-white regions (Figure 1).

Microscopic Findings

Histopathological examination demonstrated a well-circumscribed and encapsulated lesion composed of an admixture of glandular and stromal elements. Numerous ducts and lobules lined by bilayered epithelium were seen embedded within abundant mature adipose tissue and dense hyalinized fibrous stroma (Figure 2A). On higher magnification, the ducts and lobules were clearly lined by a bilayered epithelium without cytological atypia, and no stromal overgrowth or mitotic activity was identified (Figure 2B).

Immunohistochemistry

Immunohistochemical analysis revealed strong cytoplasmic and membranous positivity for cytokeratin in the epithelial cells (Figure 3A). Myoepithelial cells demonstrated nuclear positivity for p63 (Figure 3B) and S-100 (Figure 3C), confirming the presence of an intact myoepithelial layer.

Final Diagnosis

Based on the combined histomorphological and immunohistochemical findings, a diagnosis of adenolipoma of the breast (breast hamartoma) was made.

Follow-up

The patient has been on regular follow-up since surgery and remains asymptomatic, with no clinical or radiological evidence of recurrence at one-year follow-up.



Figure 1: Well-circumscribed encapsulated mass with a predominantly yellow cut surface and focal grayish-white areas

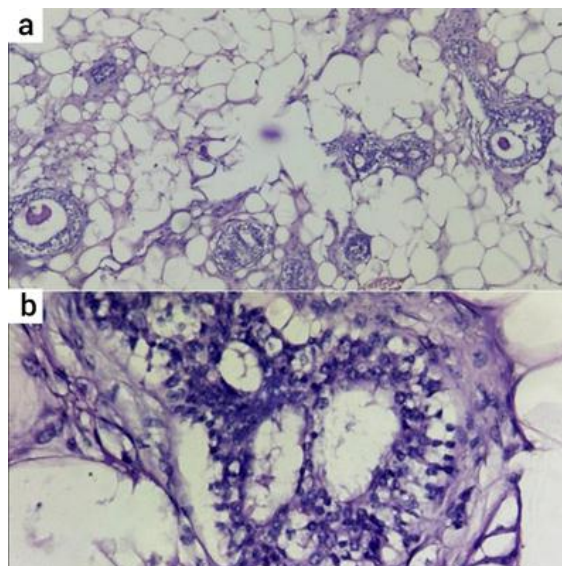


Figure 2: (A) Tumor composed of mature adipose tissue along with ductular components and lobules surrounded by fibrocollagenous stroma (H&E, ×100); (B) higher magnification showing ducts and lobules lined by bilayered epithelium embedded in abundant mature adipose tissue (H&E, ×400)

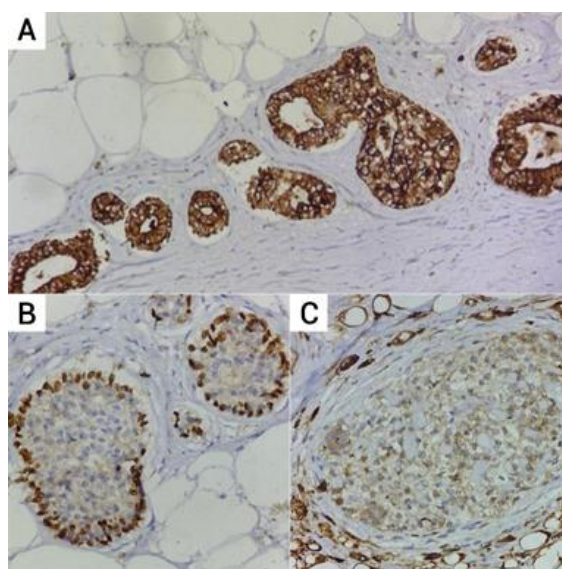


Figure 3: (A) Cytokeratin immunostaining showing cytoplasmic and membranous positivity in epithelial cells; (B) p63 immunostaining showing nuclear positivity in myoepithelial cells; (C) S-100 immunostaining highlighting nuclear positivity in myoepithelial cells.

DISCUSSION

Adenolipoma is a hamartomatous lesion composed of a disorganised proliferation of native breast elements, including ducts, lobules, fibrous tissue, and adipose tissue.^[9] It is widely considered a developmental anomaly rather than a true neoplasm, arising from abnormal organisation of breast tissue during development.^[7,9]

Although adenolipomas are uncommon, their true incidence may be underestimated due to frequent

misclassification as other benign breast lesions.^[8] They are most commonly reported in women in their 4th and 5th decades specifically,^[2] making their occurrence in elderly postmenopausal women, as in the present case, relatively rare. Additionally, the large size of the lesion (10 cm) further adds to its unusual presentation, as most reported cases are smaller or incidentally detected.

Clinically and radiologically, adenolipomas present a significant diagnostic challenge. They typically manifest as well-circumscribed, mobile masses and are often indistinguishable from fibroadenoma or phyllodes tumor.^[2] Imaging findings may demonstrate mixed fat and soft tissue densities with a pseudocapsule; however, variability in composition can obscure these classical features.^[1,10] In our case, the lesion was clinically diagnosed as a phyllodes tumor and reported as a fibroepithelial lesion on trucut biopsy, reflecting the known limitations of core biopsy in diagnosing hamartomatous lesions.

Grossly, adenolipomas are well-encapsulated masses with a yellowish cut surface interspersed with gray-white areas corresponding to adipose and fibrous tissue.^[7] Microscopically, they exhibit a characteristic disorganised admixture of ducts and lobules embedded in adipose and fibrous stroma, often producing the classical “breast within a breast” appearance.^[1,2] The absence of stromal atypia, mitotic activity, and stromal overgrowth helps distinguish adenolipoma from phyllodes tumor, while the presence of lobules and disorganised architecture differentiates it from fibroadenoma.^[2,11] Immunohistochemistry serves as an adjunct by confirming the presence of an intact myoepithelial layer, supporting the benign nature of the lesion.^[12] In the present case, cytokeratin positivity in epithelial cells and p63 and S-100 positivity in myoepithelial cells corroborated the diagnosis.

Although adenolipomas are benign, rare cases of associated malignancies, including carcinoma arising within hamartomas, have been reported, particularly in older patients.^[1,2,13] Therefore, thorough histopathological evaluation is essential to exclude coexistent malignancy. Complete surgical excision remains the treatment of choice and is generally curative, with low recurrence rates.^[9,14] The absence of recurrence in our patient at one-year follow-up is consistent with previously reported outcomes.^[1,2,7]

A major strength of this case is the detailed clinicopathological correlation, including comprehensive gross, microscopic, and immunohistochemical evaluation, which enabled accurate diagnosis despite initial clinical and biopsy-based ambiguity. The unusual features of this case, namely, occurrence in an elderly patient, large tumour size, and preoperative misdiagnosis, enhance its educational and clinical relevance. However, certain limitations should be acknowledged. The diagnosis could not be established preoperatively, reflecting the limited sensitivity of core biopsy in such lesions. Molecular studies were not performed,

which might have provided further insights into pathogenesis.

CONCLUSION

This case highlights adenolipoma of the breast as a rare benign entity that can closely mimic fibroepithelial tumors both clinically and on core biopsy. The occurrence in an elderly postmenopausal woman with a large tumor further adds to its rarity and diagnostic challenge. Accurate diagnosis relies on careful histopathological evaluation supported by immunohistochemistry. Recognition of this entity is crucial to prevent misdiagnosis and avoid unnecessary aggressive management. Complete surgical excision remains curative, with an excellent prognosis.

Acknowledgement: Nil

Ethics Statement/Declaration of Patient Consent

The authors certify that they have obtained all necessary patient consent forms. The patient has provided written consent for the publication of their photos and other clinical information in the journal. The patient is aware that while every effort will be made to conceal their identity, complete anonymity cannot be guaranteed.

Conflicts of Interest

The authors declare that they have no potential conflicts of interest.

Source of support: None

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