

**CASE REPORT**

Angiolipoma of The Mammary Region

Navjot Kaur, Anchana Gulati, Rajni Kaushik, Vijay Kaushal

Abstract

Angiolipoma is a benign variant of lipoma that is rare in the breast and may be confused clinically, radiologically and pathologically with other benign as well as malignant tumors. Clinicians, radiologists and pathologists in particular should not forget the existence of an angiolipoma of the breast to avoid unnecessary reaspiration of the lesion considering the smears with only adipose tissue fragments as inadequate. We report two cases of angiolipoma who presented with solitary lumps in the breast and a clinical diagnosis of fibroadenoma was suggested in both the cases. Both were diagnosed as lipoma on cytology and on excisional biopsy, a histopathological diagnosis of angiolipoma was given

Key Words

Angiolipoma; Breast; Fine Needle Aspiration Cytology; Histopathology

Introduction

Adipose tissue is commonly found in breast aspirates. However, the diagnosis of a breast lipoma is made reluctantly in most cases, because the presence of fat in the smears is usually secondary to inadequate sampling of a palpable mass, the fat representing inadvertent aspiration of the surrounding nondiagnostic adipose tissue. However, if a mammographically evident and clinically appreciated soft, circumscribed, freely movable mass is aspirated and the only finding with repeated biopsies is the presence of fat, then lipoma can be the suggested diagnosis. The confidence level of making the diagnosis of lipoma is enhanced when the aspirator is the same individual interpreting the cytologic material and the mammographic findings support the diagnosis (1).

Angiolipoma was established as a pathologic entity in 1960 by Howard and Helwig (2). A variant of lipoma, it accounts for 5% to 17% of all benign fatty tumors (3). However, angiolipoma which is uncommon in the breast

may be confused clinically, radiologically and pathologically with other benign and malignant lesions.

We present two cases of angiolipoma of the breast which were diagnosed as lipoma on cytology and angiolipoma on histopathology. The importance of correlating with the sonographic findings and clinical picture is emphasized in the following cases. Both these patients were subjected to re-aspiration as the smears showed only adipose tissue fragments. So by reporting these two cases we want to bring this entity to the attention of clinicians, radiologists and pathologists so that its existence in the breast must not be forgotten.

Case Report

Case 1

A 40-year-old woman presented with a solitary painless swelling in the upper outer quadrant of the right breast of six months' duration. Local examination revealed a well circumscribed, mobile, soft swelling measuring 2×2 cm.

From the Department of Pathology, Indira Gandhi Medical College, Shimla (Himachal Pradesh)-India

Correspondence to : Dr. Navjot Kaur, Arya Sadan, Ground Floor, Near SBI ATM, Khalini, Shimla, Himachal Pradesh, India

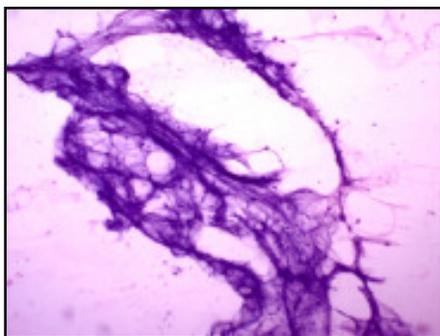


Fig 1. Smear Showing Mature Adipose Tissue Fragments with Intertwined Branching Capillary Channels (×100)

Case 2

A 36-year-old woman presented with a solitary painless, slowly growing swelling in the outer lower quadrant of the right breast of eight months' duration. Local examination revealed a well circumscribed, mobile, soft swelling measuring 2×1 cm. In both the cases, the nipple and areola were normal and the swelling was not attached to the chest wall. There was no skin thickening or erythema and no axillary lymph node enlargement. There was no history of prior removal of skin lesions, trauma or irritation at the site. There was no family history of breast cancer. A clinical diagnosis of fibroadenoma was suggested in both the cases. Mammography was normal and on ultrasonography, it had a homogeneously echogenic appearance.

Fine needle aspiration cytology (FNAC) of the breast swelling revealed lipidaceous aspirate in both the cases. Microscopic examination of smears revealed a few fragments of mature adipose tissue and a few single fat cells. With these cytomorphological features along with the absence of ductal epithelial cells, the aspirate was considered inadequate and reaspiration was done. The fresh smears showed many mature adipose tissue fragments with intertwined branching capillary channels and some single fat cells (*Fig 1*).

But, again no ductal epithelial cells were seen. A cytological diagnosis of lipoma was suggested in both cases and these patients subsequently underwent excisional biopsy of the breast mass. Histopathological examination revealed a well-circumscribed and thinly encapsulated lesion composed of a mixture of mature adipose tissue and a network of capillaries. Some of the

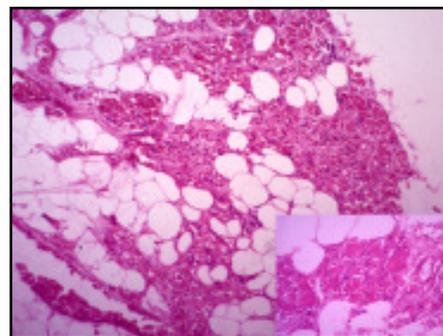


Fig 2. Histopathology Section Showing a Mixture of Mature Adipose Tissue and a Network of Capillaries (H and E, ×100); Inset Shows Fibrin Thrombi in some of the Blood vessels (H and E, ×400)

blood vessels contained fibrin thrombi (*Fig 2*). A histopathological diagnosis of angiolipoma was given in both the cases.

Discussion

Lipomas are quite easily recognised as encapsulated proliferation of mature adipocytes. Some lipomas exhibit prominent vascularity, usually at the periphery. These have been called angiolipomas (4).

Angiolipoma is a benign variant of lipoma that accounts for 5% to 17% of all benign fatty tumors but is rare in the breast (5). It typically occurs in the upper extremities, the abdomen and the back. The reported age at diagnosis ranges from 1 to 82 years. The cause of angiolipoma is unknown. Although some investigators have suggested an association with repeated trauma, others doubt this association. Breast angiolipomas may manifest as a solitary mass or multiple synchronous or metachronous breast masses. At presentation, these patients may have either palpable breast masses or nonpalpable mammographically depicted masses. There are usually no overlying skin changes, as was the case in our patients. Although angiolipomas may manifest as painful masses, those occurring in the breast are typically painless.

There is no typical mammographic appearance of angiolipomas. Nothing may be seen, or a density or a nodule may be noted at mammography. The key to the diagnosis is suggested by the homogeneously echogenic sonographic appearance as seen in both our patients, which is unusual for breast masses. However, the differential diagnosis for masses with increased

echotexture includes focal acute haemorrhage or acute haematoma, focal fibrosis, haemangioma, angioliopoma, spindle cell lipoma and malignancy. There is little information in the literature about the appearance of angioliopomas at Doppler interrogation (3).

Cheung et al reported a case of angioliopoma of the breast presenting as a partial obscured mass with microcalcification on mammogram. Sonogram revealed an encapsulated hyperechoic nodule with homogeneous internal echo (6).

Mammary angioliopomas are encapsulated, yellowish nodules that rarely exceed 2 cm in diameter. There are two varieties of angioliopoma, the infiltrative and the non-infiltrative types. Mammary angioliopomas have been reported to be of the non-infiltrative variety. Both types are benign with no malignant potential (3).

The histologic appearance of angioliopoma in the mammary subcutaneous tissue does not differ from comparable lesions in other subcutaneous locations (7). Microscopically angioliopomas consist of mature fat cells separated by a branching network of small vessels; the proportion of fatty tissue and vascular channels varies, but usually the vascularity is slightly more prominent in the subcapsular areas. Characteristically, the vascular channels contain fibrin thrombi, a feature that is absent in ordinary lipomas. Mast cells are often conspicuous in angioliopomas, another feature that distinguishes this tumor from the usual lipoma. The differential diagnosis of this lesion depends on the density of vessels. The hypovascular lesions may be difficult to distinguish from ordinary lipomas, although the identification of microthrombi allows this distinction. Some tumors are highly cellular and composed entirely of vascular channels (cellular angioliopoma) (8). Failure to diagnose cellular angioliopoma may potentially lead to diagnostic pitfalls that include angiosarcoma and Kaposi's sarcoma, two of the better recognized entities in the mammary region (9). The treatment of mammary angioliopomas is simple excision because these are of non-infiltrative variety. For

the infiltrative variety that may occur elsewhere in the body, wide excision may be needed to prevent recurrence. (3).

Conclusion

The existence of an angioliopoma of the breast must not be forgotten because this tumor may be confused clinically, radiologically and pathologically with other lesions and such patients may be subjected to repeated aspirations for the lack of cellular material leading to unnecessary inconvenience to the patient.

References

1. Silverman JF. Breast. In Bibbo M, editor. Comprehensive cytopathology. 2nd ed. Philadelphia: W B Saunders; 1997. pp. 735-36.
2. Howard WR, Helwig EB. Angioliopoma. *Arch Dermatol* 1960;82:924-31.
3. Weinstein SP, Conant EF, Acs G. Case 59: Angioliopoma of the breast. *Radiology* 2003;227:773-75.
4. Brooks JSJ. Disorders of soft tissue. In Mills SE, editor. Sternberg's diagnostic surgical pathology. 4th ed. Philadelphia: Lippincott Williams & Wilkins; 2004. pp. 174.
5. Mintz AD, Mengoni P. Angioliopoma of the breast: sonographic appearances of two cases. *J Ultrasound Med* 1998;17:67-69.
6. Cheung YC, Wan YL, Ng SH, *et al*. Angioliopoma of the breast with microcalcification. Mammographic, sonographic, and histologic appearances. *Clin Imaging* 1999 ;23(6):353-55.
7. Benign mesenchymal neoplasms. In Rosen PP, editor. Rosen's Breast Pathology. 2nd (edt). Philadelphia: Lippincott Williams & Wilkins; 2001. pp. 803.
8. Benign lipomatous tumors. In Weiss SW, Goldblum JR, editors. Enzinger and Weiss's soft tissue tumors, 5th (ed). St. Louis: Mosby; 2008. pp. 437-40.
9. Kahng HC, Chin NW, Opitz LM, *et al*. Cellular angioliopoma of the breast: immunohistochemical study and review of the literature. *Breast J* 2002;8(1):47-49.