

Adenomyoepithelial Adenosis of Breast: A Case Report and Review of Literature

V Rajalakshmi¹, Saisuda Mudda², Hemalatha Ganapathi³, Mary Lilee⁴

How to cite this article:

V Rajalakshmi, Saisuda Mudda, Hemalatha Ganapathi, et al. Adenomyoepithelial Adenosis of Breast: A Case Report and Review of Literature. Indian J Forensic Med Pathol. 2020;13(2):350–352.

Abstract

Adenomyoepithelial adenosis of breast is a very rare type of adenosis. The proliferation of epithelial and myoepithelial cells of breast together can result in spectrum of lesions ranging from Adenomyoepithelioma, adenomyoepithelial adenosis and adenomyo epithelial carcinoma. Adenomyoepithelial adenosis can transform into adenocarcinoma of breast and myoepithelial carcinoma. The diagnosis, differentiation and follow up is mandatory with wide local excision of the lesion with tumour free margins as it can recur, become malignant and metastasise rarely with inadequate excision. Here we report a case of adenomyoepithelial adenosis of the breast in a 30 years old female.

Keywords: Breast; Adenomyoepithelioma; Adenomyoepithelial adenosis; Malignant transformation.

Introduction

Breast tissue is a potential site for epithelial and myoepithelial proliferations independently or together. The atypical proliferations can result in hyperplastic and neoplastic lesions of breast.¹ The adenomyoepithelial adenosis (AMA) is a rare type of adenosis with both epithelial and myoepithelial hyperplasias resulting in proliferation of tubules as well as nodular proliferation of myoepithelial cells around the tubules. The epithelial and myoepithelial cells proliferate in an asynchronous manner and the arrangement is alternate.² AMA is

prone to progress to carcinoma.^{3,4} We report a case of Adenomyoepithelial adenosis which though rare need to be followed up in view of recurrence, malignant transformation and metastasis especially in case of excision with inadequate margins.

Case Report

Thirty years old woman presented to the surgical OPD with a palpable lump in the upper and inner quadrant of right breast of six years duration.

O/E A mobile lump measuring 3 × 3 cms in the upper and inner quadrant of right breast. A clinical diagnosis of fibroadenoma was made.

USG features were suggestive of Fibroadenoma with axillary lymphadenitis and Mammogram features were in favour of Birads II-III.

FNAC was done. FNAC: Proliferative breast disease.

Excision of the lump was done

Gross

Received 2 nodules in one container. Largest

Authors Affiliation: ^{1,4}Professor, ²Assistant Professor, ³Professor & Head, Department of Pathology, Sree Balaji Medical College, Chromepet, Chennai, Tamil Nadu 600044, India.

Corresponding Author: V Rajalakshmi, Professor, Department of Pathology, Sree Balaji Medical College, Chromepet, Chennai, Tamil Nadu 600044, India.

E-mail: raji_path@rediffmail.com

Received on 31.01.2020, **Accepted on** 18.02.2020

measuring $3 \times 2.5 \times 1$ cm. Smallest measuring 2 ccs in aggregate. C/s greyish yellow, soft to firm (Fig. 1).



Fig. 1: Mass measuring 3×2.5 cms c/s yellowish whitewith multiple small pieces 1cc in aggregate.

Microscopy

Multiple sections showed a poorly circumscribed lesion composed of tubular structures of varying sizes, some dilated lined by flattened epithelial cells with outer myoepithelial cells and some of the tubules are filled with eosinophilic secretions. Occasional tubules showed apocrine metaplasia. The tubules are surrounded by nodular collections of cells which are round to oval with clear cytoplasm and uniform nuclei. No atypia seen. Only occasional mitosis seen (Fig. 2,3). In view of the proliferated tubular structures and surrounding clear myoepithelial cells proliferation, diagnosis of AMA was made.

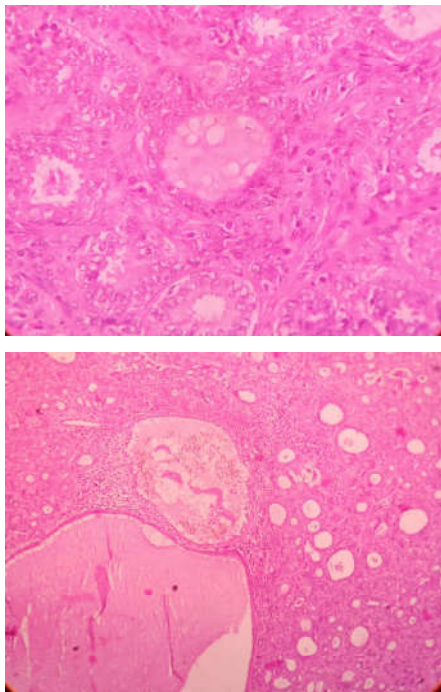


Fig. 2 & 3: H & E X400 Tubules of varying sizes surrounded by nodular proliferation of round to oval cells.

IHC

PAN Cytokeratin Cytoplasmic Positivity in the lining epithelial cells of the tubular structures (Fig. 4). SMA cytoplasmic positivity in the myoepithelial cells in the basal cells of the tubules and in the cells around the tubules (Fig. 5). P63 nuclear positivity in the myoepithelial cells (Fig.6). The above IHC confirmed the diagnosis of AMA.

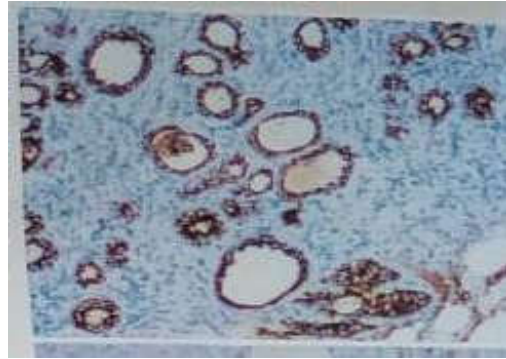


Fig. 4: IHC X400 PanCK Strong cytoplasmic positivity in the epithelial cells lining the tubules.



Fig. 5: IHC X400 SMA strong cytoplasmic positivity in the myoepithelial cells.

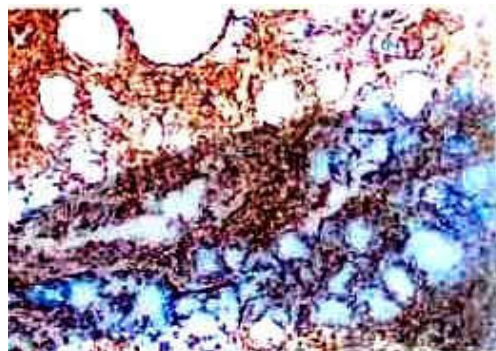


Fig. 6: IHC X400 P 63 nuclear positivity in the myoepithelial cells.

Discussion

Adenomyoepithelial lesions are seen in salivary gland, parathyroid, skin and breast.

Myoepithelial lesions of the breast can be classified as myoepitheliosis (ME), AMA, adenomyoepithelioma (AME) and Epithelial myoepithelial carcinoma (EMC).⁵ AMA is a rare type of adenosis mixed or surrounded by AME.^{2,3} Pia-Foschini et al.⁶ is of the view that these lesions can be referred as tubular AME instead as AMA. AMA can also be associated with fibrocystic change, duct adenosis, papilloma, duct ectasia and apocrine metaplasia. AMA presents as palpable mass from 1.3 cms to 5 cms in size and in our case the size was 3 cms.^{4,7,8,10} The epithelial proliferation is seen in the form of round or irregular tubular structures lined by cuboidal to columnar epithelium which may show apocrine metaplasia and squamous metaplasia. Around the tubules prominent proliferation of myoepithelial cells are seen.^{2,4} There will be no significant atypia or mitosis. Our case showed all the above features except squamous metaplasia. Kiaer et al.⁷ and Eusebi et al.⁸ have reported one case each of AMA in 46 year old woman. Mitra et al.⁹ have reported a case of AMA in a 17 year old girl. In our case the patient is 30 years old. AMA is prone for progression to carcinoma.⁴ AMA can transform into adenocarcinoma or malignant AME. Microglandular adenosis (MA) and tubular carcinoma (TC) need to be differentiated from AMA. MA lacks the myoepithelial cells. TC has irregular, angulated tubules surrounded by desmoplastic stroma and myoepithelial cells are absent.¹⁰ IHC for dual population of epithelial and myoepithelial cells are confirmatory in AMA. AMA is prone to transform into adenocarcinoma and malignant transformation in a 50 year old female with a lump breast of 20 years duration was reported. The mastectomy revealed AMA with 5 adenocarcinoma foci.⁴

Conclusion

The behaviour of AMA of breast is generally benign but it is a lesion with low malignant potential. Recurrence and metastasis may occur as a result of inadequate excision with out wide free margins.

Further study and follow up of more AMA can throw more light as to the course of the lesion. We report this case for its rarity.

References

1. Rosen PP: Adenomyoepithelioma of the breast. *Hum Pathol* 1987;18:1232-37.
2. Moinfar F. Adenosis. In: Moinfar F (ed) *Essentials of Diagnostic Breast Pathology*. Springer, Berlin 2007;31.
3. Tavassoli FA, Soares J. Myoepithelial Lesion: World Health Organization classification of Tumors. *Pathology & Genetics. Tumors of the breast and Female Genital Organs*. International Agency for Research on Cancer (IARC), Lyon 2003;86-88.
4. Tsuda H, Mukai K, Fukutomi T, et al. Malignant progression of adenomyoepithelial adenosis of the breast. *Pathol Int* 1994;44:475-79.
5. Tavassoli FA. Myoepithelial lesion of the breast. Myoepitheliosis, adenomyoepithelioma, and myoepithelial carcinoma. *Am J Surg Pathol* 1991;15:554-68.
6. Pia-Foschini Mi, Reis-Filho JS, Eusebi V, Lakhani SR. Salivary gland - like tumours of the breast: surgical and molecular pathology. *J Clin Pathol* 2003;56:497-506.
7. Kiaer H, Nielsen B, Paulsen S, et al. Adenomyoepithelial adenosis and low grade malignant adenomyoepithelioma of the breast. *Virchows Arch A Pathol Anat Histopathol* 1984;405:55-67.
8. Eusebi V, Casadei GP, Bussolati G, et al. Adenomyoepithelioma of the breast with a distinctive type of apocrine adenosis. *Histopathology* 1987;11:305-15.
9. Mitra B, Pal M, Saha T, et al. Adenomyoepithelial Adenosis of Breast: A Rare Case Report. *Turk J Surg Pathol* 2017;33:240-44.
10. Erel S, Tuncbilek I, Kismet K, et al. Adenomyoepithelial Adenosis of the Breast: Clinical, Radiological, and Pathological Findings for Differential Diagnosis. *Breast Care* 2008;3:427-30.

