



## Case Report

# Adenomyoepithelioma of breast

Sharma N<sup>1</sup>, Manandhar U<sup>2</sup>, Sayami G<sup>2</sup>

<sup>1</sup>Department of Pathology, Tribhuvan University Teaching Hospital, Kathmandu, Nepal.

<sup>2</sup>Department of Pathology, Tribhuvan University Teaching Hospital, Kathmandu, Nepal.

### Keywords:

Adenomyoepithelioma;  
Breast;  
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### ABSTRACT

Adenomyoepithelioma of breast is a rare, benign proliferative tumor formed of proliferation of myoepithelial cells surrounding small epithelium lined spaces. We present two cases of adenomyoepithelioma of the breast. The first case was of a 23-years-old female with right breast lump and the second of a 41-year-old female with left breast lump. No patient had prior, coexistent carcinoma of either breast. None had any family history of breast cancer either. Excisional biopsy, Hematoxylin and Eosin staining and immunohistochemistry with S100 were performed. The pathological diagnosis was adenomyoepithelioma.

## INTRODUCTION

The myoepithelial cell is a normal constituent of various secretory glands such as the mammary gland, eccrine and apocrine sweat glands, and major and minor salivary glands.<sup>1</sup> Myoepithelial cells interposed between the polarized glandular cells and the underlying basement membrane comprise part of the normal lining of mammary ducts and lobules.<sup>2</sup>

Adenomyoepithelioma of the breast is a rare benign proliferative breast tumor with characteristic proliferation of epithelial and myoepithelial cells with a typical presentation of a single unilateral painless nodule in a wide age group ranging from the third to ninth decades.<sup>3</sup> The discovery of adenomyoepithelioma of the breast dates back to 1970 when it was first described by Hamperl.<sup>4</sup> It is a benign neoplasm,

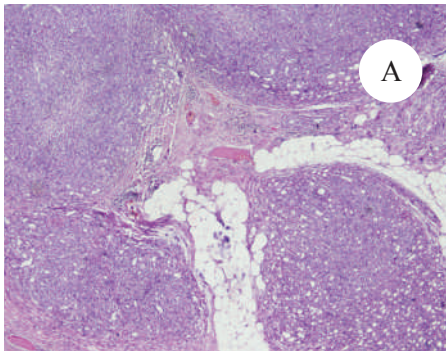
but failure to achieve an adequate resection margin can lead to recurrence. Therefore, local resection with free margins is the treatment of choice for these patients.<sup>3</sup> Almost all cases of adenomyoepitheliomas are benign with only a few cases reported to have local recurrences, malignant transformation and metastasis.<sup>5</sup> We present two cases of adenomyoepithelioma of breast. These cases are mentioned here due to their rarity.

## CASE REPORT

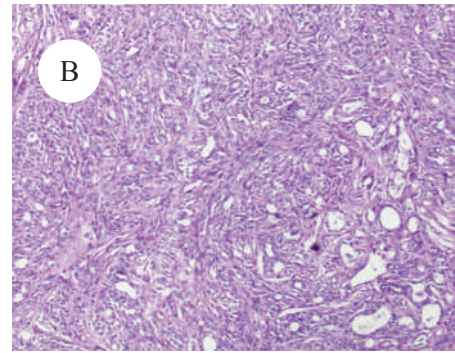
The two cases were of 23 and 41 year-old females who presented with lump on right and left breast respectively. Excisional biopsy was done in both the cases. The tissues were formalin fixed. Gross examination from 23 year-old lady showed two pieces of breast tissue, larger of which measured 9.5x8.5x5 cm and smaller 4x3 cm. The cut sections showed circumscribed tan white nodules with no areas of hemorrhage or necrosis. All sections were processed for paraffin sections and stained with hematoxylin and eosin.

### Correspondence:

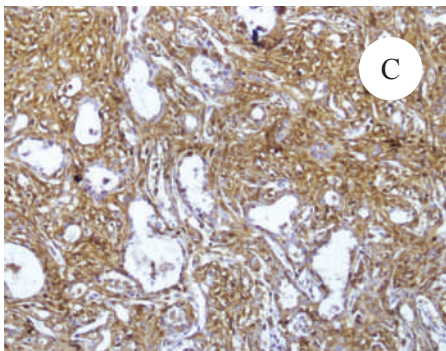
Dr. Nisha Sharma, MBBS, Resident, MD  
Tribhuvan University Teaching Hospital  
Maharajgunj, Kathmandu, Nepal.  
Email address: arcticnisha@gmail.com



**Figure 1A:** Multiple circumscribed nodules separated by fibrous septa.



**Figure 1B:** On higher magnification, nodules are seen composed of inner tubules surrounded by proliferating myoepithelial cells.



**Figure 1C:** Immunohistochemistry with S100 shows strong positivity for the proliferating myoepithelial cells.

Light microscopy showed well circumscribed nodules separated by fibrous septa. The nodules were composed of tubules lined by inner cuboidal cells and outer proliferating myoepithelial cells. (Fig. 1A, 1B & 1C)

Gross examination from 41-year-old lady showed two pieces of globular grey white tissue altogether measuring 5x3.5x1.5 cm, the cut sections of which showed circumscribed, lobulated and homogenous white areas with no areas of hemorrhage and necrosis. On light microscopic examination, the tumor was well demarcated and composed of biphasic proliferation of glandular epithelial cells and surrounding myoepithelial cells. Adjacent areas showed adenosis. The myoepithelial cells in both the cases were oval to spindle in shape having clear to light eosinophilic cytoplasm and bland nuclear chromatin. Mitosis, atypia and necrosis were not noted in either of the cases. Immunohistochemical staining for myoepithelial cells showed positivity for S-100 in both the cases. (Fig 2A, 2B, 2C & 2D)

## DISCUSSION

Neoplasms of pure myoepithelial or mixed epithelial and myoepithelial origin have been described in the salivary

glands but are very rare in the breast. Myoepitheliosis, adenomyoepithelioma and myoepithelial carcinoma include the spectrum of the myoepithelial lesions of breast.<sup>5</sup> Breast adenomyoepithelioma is a rare benign breast tumor with a dimorphic population of epithelial and myoepithelial cells with the latter constituting the major component. Proliferating myoepithelial cells and gland forming epithelial cells are present in almost all cases.<sup>6</sup> The myoepithelial cells are spindle to ovoid to polygonal in shape with clear to eosinophilic cytoplasm. Both the cell types have minimal cytological atypia.

Myoepithelial neoplasms have a wide range of differential diagnoses such as tubular adenoma, sclerosing adenosis and complex sclerosing lesion thus causing diagnostic challenges and hence its distinction becomes imperative.<sup>7</sup>

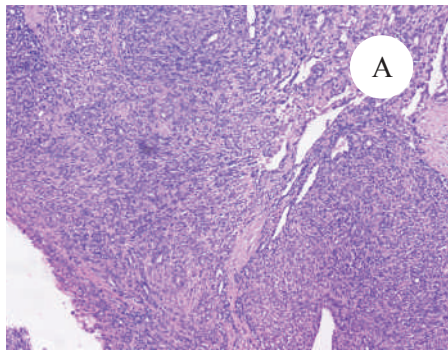
Most patients with adenomyoepithelioma are women of postmenopausal age but it has been reported in young patients also. There are three common variants spindle, tubular and lobulated of which the tubular type of adenomyoepithelioma is the most common microscopic pattern.<sup>8</sup> Cytological atypia, high mitotic activity and infiltrative border are predictors of malignancy.<sup>9</sup> Immunohistochemistry reveals positivity for AE1/AE3, epithelial membrane antigen and low molecular weight keratin in the epithelial component, whereas the myoepithelial cells express muscle specific action, smooth muscle actin, calponin, caldesmon S-100, p63 and CD10. Our cases had positivity for S-100 in myoepithelial cells.<sup>10</sup>

## CONCLUSION

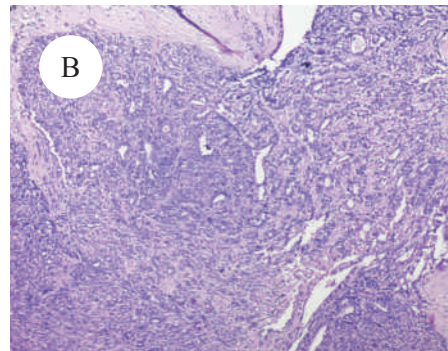
Adenomyoepithelioma is a benign proliferative breast disorder with a risk for recurrence, malignant transformation and metastasis. Hence accurate diagnosis with close follow-up is mandatory.

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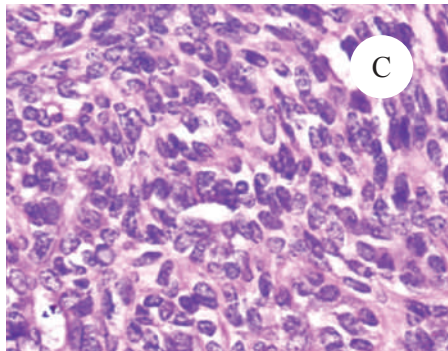
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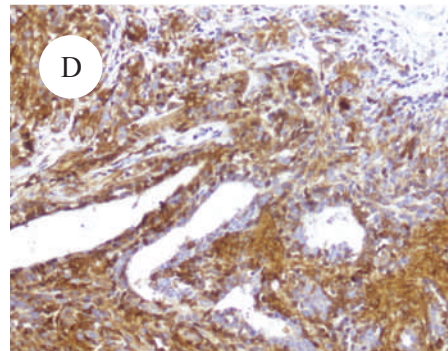
**Figure 2A:** Second case also showing inner tubules surrounded by proliferating myoepithelial cells.



**Figure 2B:** Higher magnification of the same image.



**Figure 2C:** Proliferating myoepithelial cells are ovoid to spindle in shape having clear to eosinophilic cytoplasm.



**Figure 2D:** Immunohistochemistry depicting S100 positivity in myoepithelial cells.

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