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Malignant Adenomyoepithelioma of the Breast with Lymph Node Metastasis

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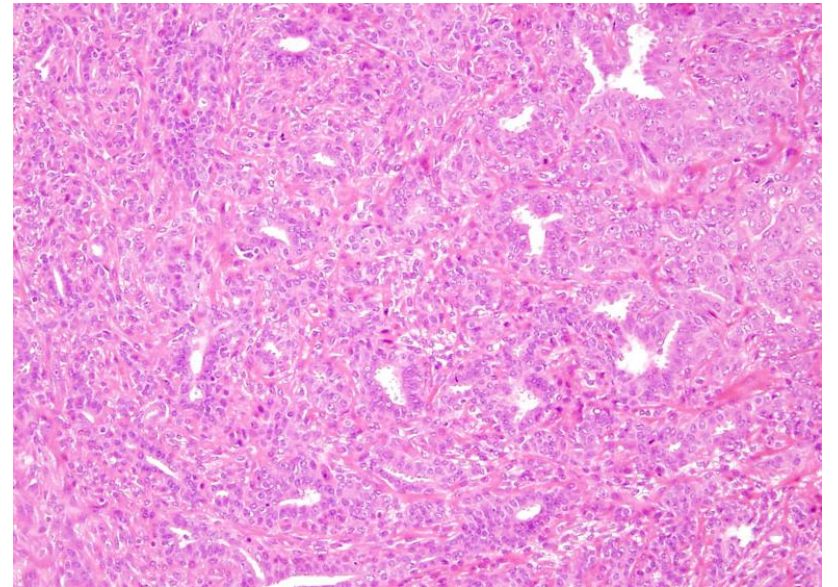
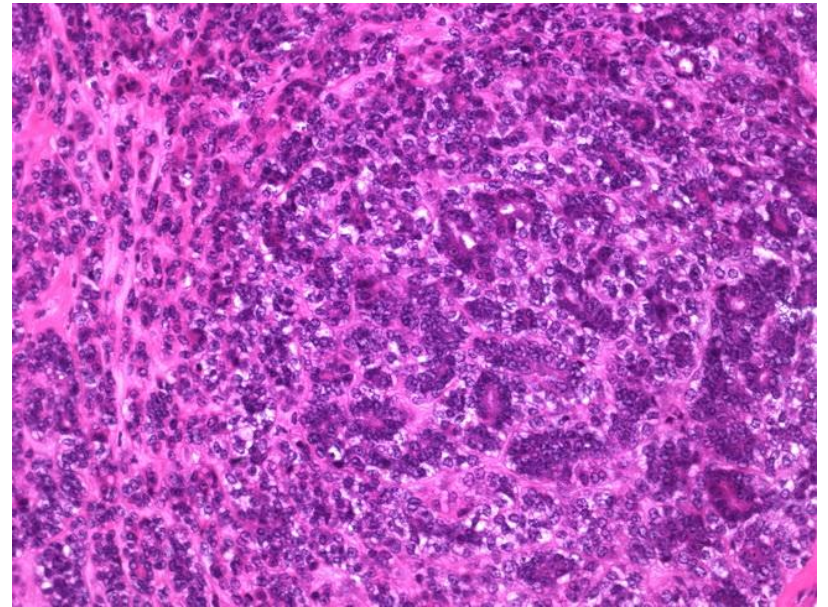
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Introduction

- Breast Adenomyoepithelioma is a benign neoplasm, resembling adenomyoepithelioma of salivary glands.
- Uncommon, mean age 60 years.
- Considered a variant of intraductal papilloma.
- It usually presents as a palpable mass.
- Treatment Complete local excision.

- Histologically, it is characterized by biphasic proliferation of epithelial cell and myoepithelial cell



- There is potential for local recurrence and, rarely, distant metastasis.
- Malignant adenomyoepithelioma of the breast is rare with around 30 cases reported in the literature
- Malignant change can be either a pure **myoepithelial carcinoma** **or** a **combined malignant adenomyoepithelioma**

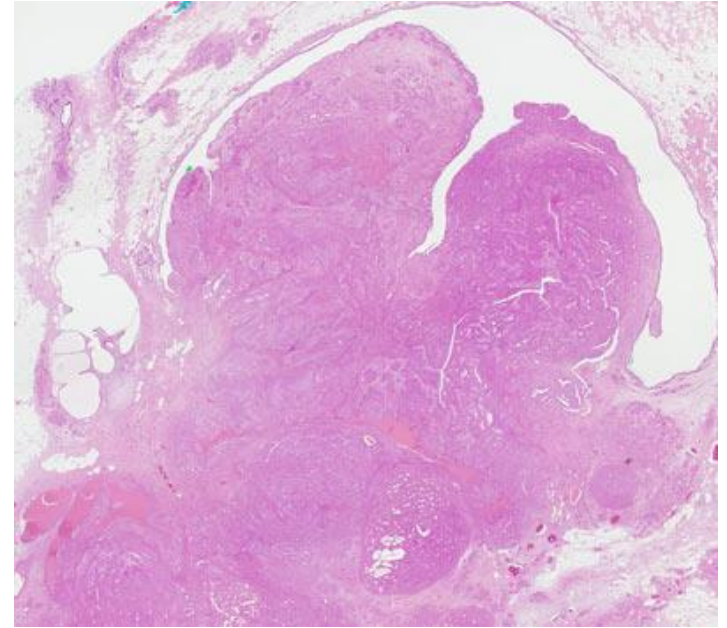
- Metastases associated with these malignant tumours are usually **haematogenous**.
- **Axillary lymph node** metastases are thought to be unusual.
- It has been recently suggested that axillary lymph node dissection is not indicated unless **clinically palpable**.

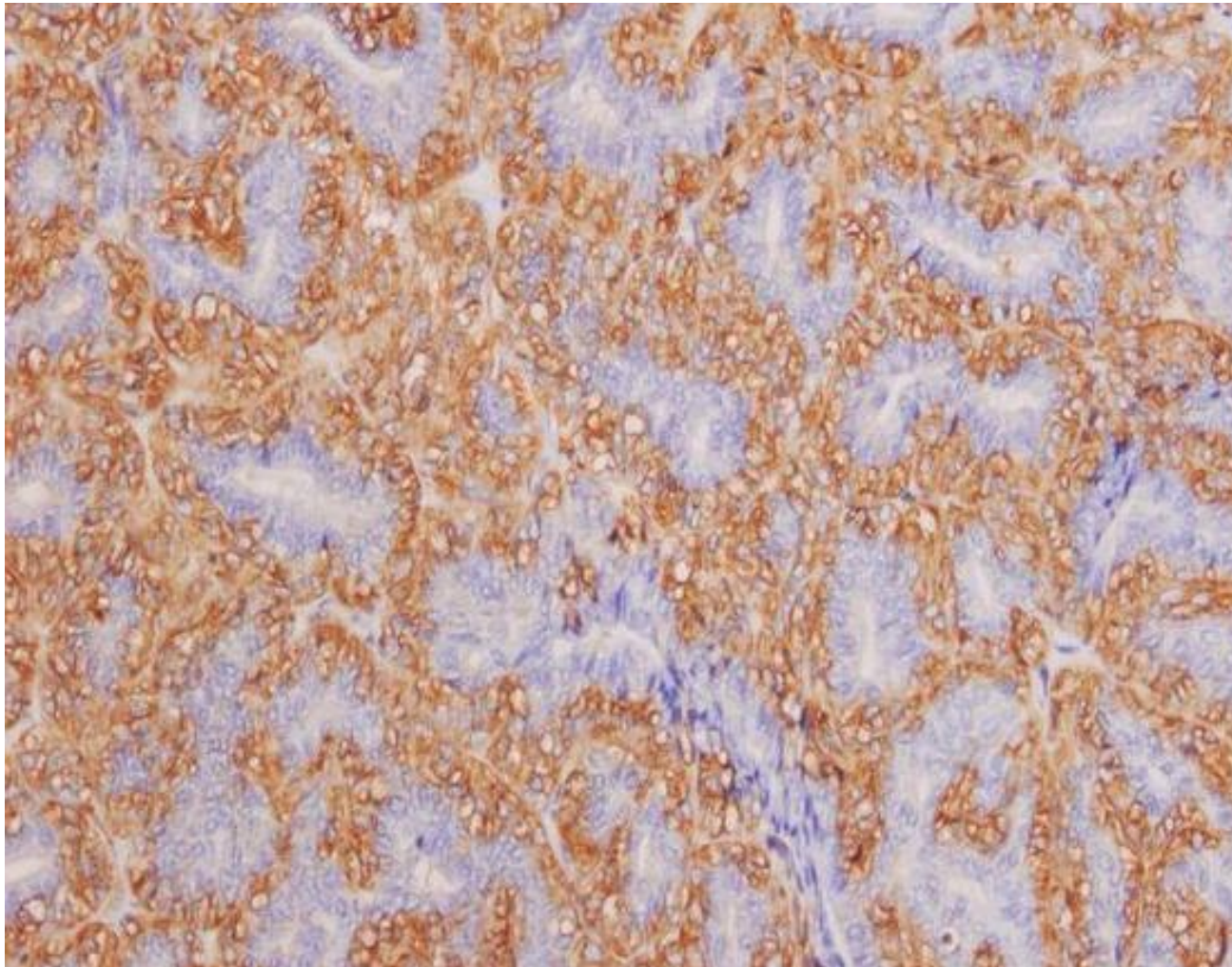
CASE

- A 63-years-old woman presented with a mass in the left breast.
- A core biopsy showed intraductal papilloma with atypical hyperplasia (**B3**).
- This was removed by wide local excision.
- Grossly, the biopsy included two small greyish white soft nodules, each measuring 1 cm in diameter.

Microscopic examination

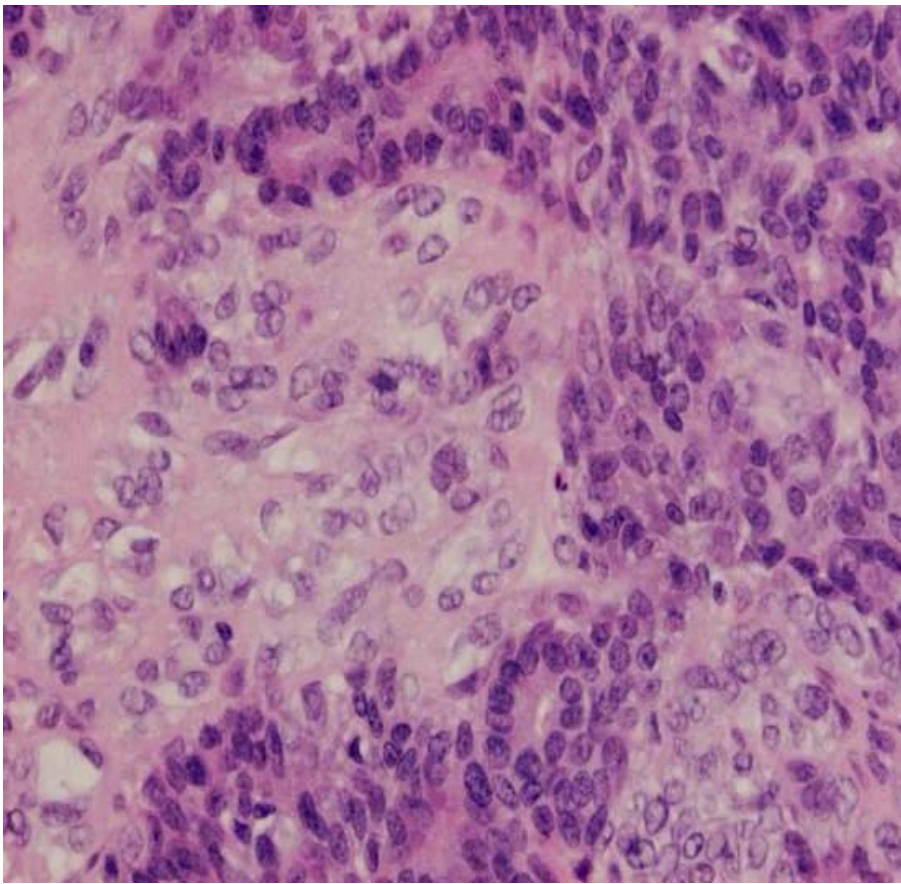
- showed multiple intraductal papillary lesions.
- In some areas, the papillae were covered by a single layer of epithelial cells with underlying several layers of myoepithelial cells (positive for SMA, p63, and CD10)
- Diagnosed as adenomyoepithelioma.



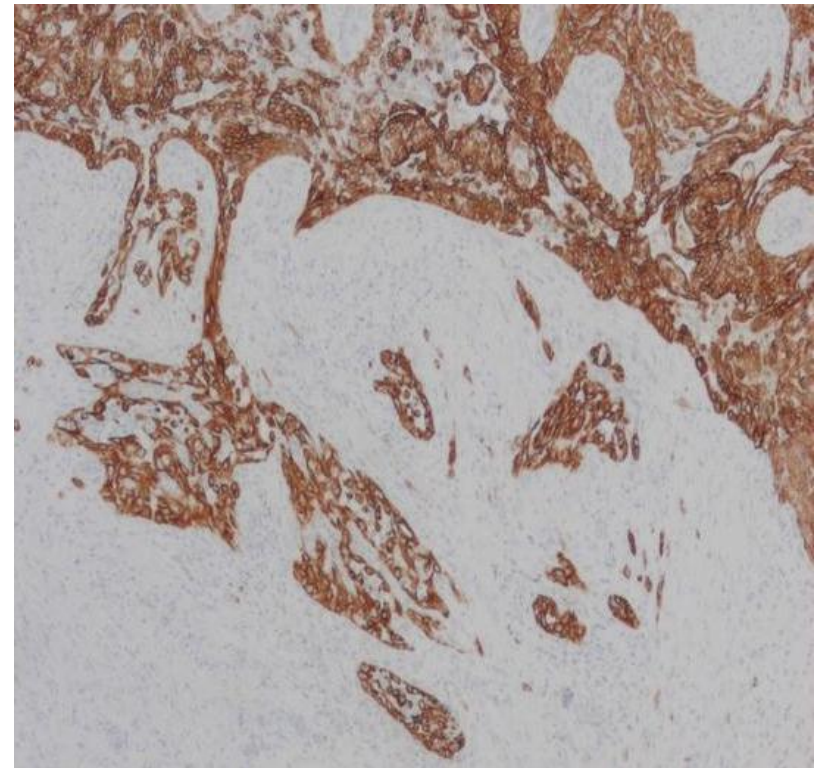


myoepithelial component (**SMA**)

- The epithelial cells were **ER negative** and many were **CK5 and 14 positive**, indicating that they are basal-like rather than luminal type.
- Other areas of the lesion consisted of solid proliferation of a mixture of these epithelial and myoepithelial cells and showed
 - **abundant mitotic figures**
 - **marked nuclear pleomorphism**
 - **evidence of peripheral invasion.**



Malignant component - solid area showing dual-cell population with marked nuclear pleomorphism.



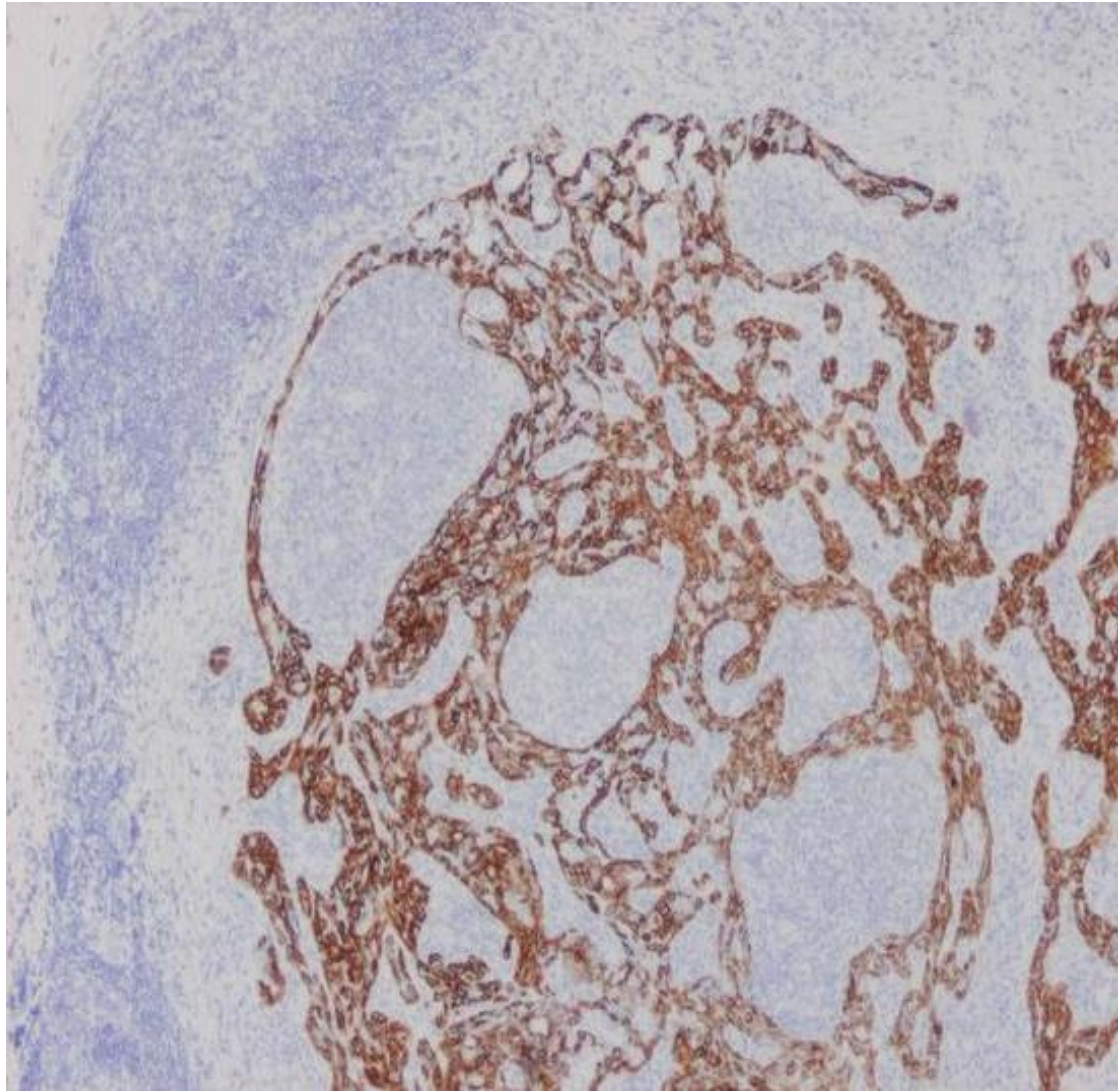
Malignant component - invasive edge of the lesion **CK5**.

- The features were considered as a **malignant adenomyoepithelioma** developing in continuity with a benign adenomyoepithelioma of the breast.
- The lesion reached the excision margins and re-excision was recommended.

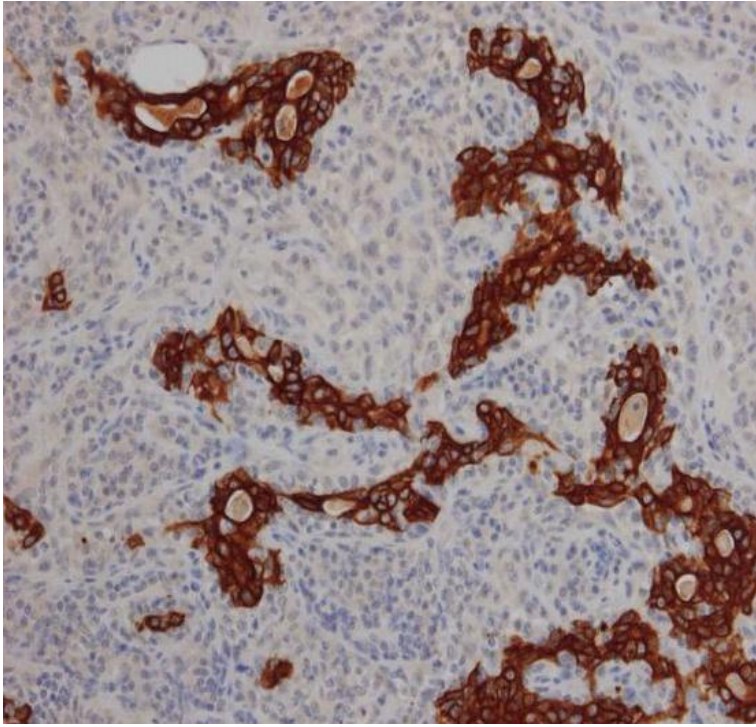
- A mastectomy was carried out with axillary lymph node sampling.
- Pathological examination showed:
 - a partly cystic and partly solid tumour measuring 7x4x4.5 cm,
 - With similar features to those seen previously
 - consisted of a mixture of epithelial and myoepithelial cells arranged in a benign adenomyoepithelioma fashion in some areas,
 - which merged with areas showing malignant features as those described above with invasion of adjacent breast tissue.

Lymph Nodes Examination:

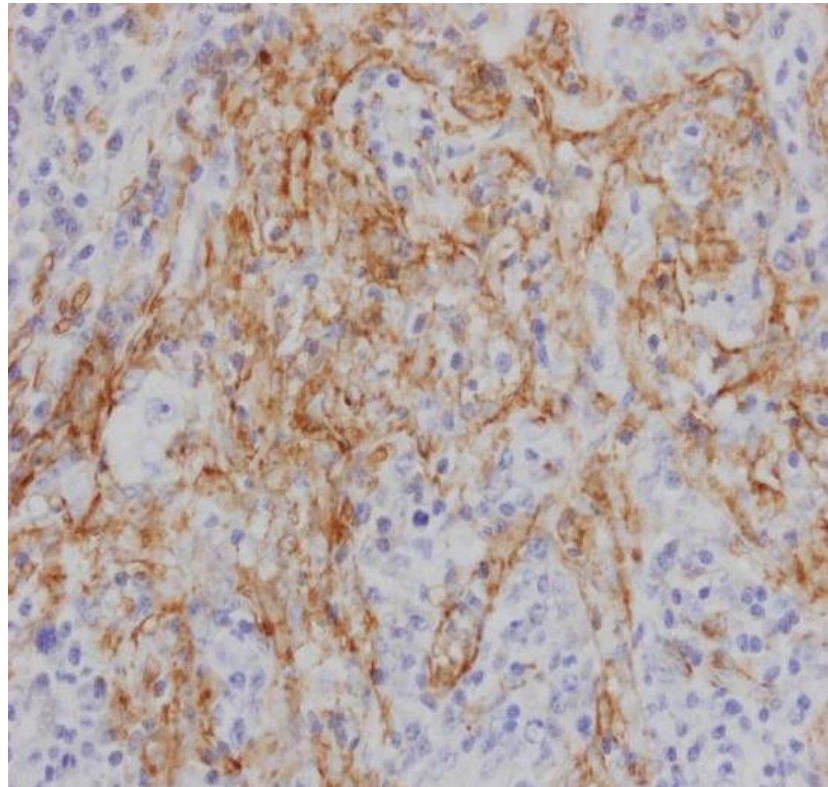
- One of the two dissected lymph nodes showed a 1.8 mm metastatic focus
 - positive for CK8/18, CK19, AE1/AE3, CK5/6, CK14, SMA, and CD10
- ➔ indicating the presence of **epithelial** and **myoepithelial** elements.



Lymph node metastasis - **CK5** staining both epithelial and myoepithelial elements



CK19 staining epithelial element



SMA staining myoepithelial element

Discussion

- Malignant adenomyoepithelioma of the breast is generally preceded by a long history of a stable breast mass followed by rapid growth phase.
- Grossly, the tumour is usually nodular and may show cystic changes as well as necrosis and foci of calcification.

- Histological features of malignant transformation include
 - nuclear atypia
 - increased mitotic activity
 - necrosis, and
 - infiltrative growth pattern.

- In our case, all these features were present, except for necrosis.

- Malignant adenomyoepithelioma has the potential for distant metastases **usually through hematogenous spread**.
- These typically occur in lesions larger than 2 cm and in those with high-grade malignant component.
- Distal metastasis were described in upto 32% of cases
- Mets involved lungs, brain, soft tissues, liver, bone, and thyroid gland.

- **Axillary lymph node** involvement in breast malignant adenomyoepithelioma is thought to be unusual.
- Therefore, it has been suggested that axillary lymph node dissection is not indicated in these tumours unless there is clinically enlarged nodes.
- However, metastases to axillary nodes have been reported in 2 previous cases, in addition to the current case **where no palpable lymph nodes were present.**

Conclusions

- We presented a case of a 63-years-old woman, who developed a malignant adenomyoepithelioma.
- She had axillary lymph node metastasis, that included epithelial and myoepithelial elements, in spite of the absence of clinically enlarged nodes.
- We suggest that histological examination of axillary sentinel nodes or node sampling may be worthwhile in this condition.



Thank You