

Slide seminar

Case 11

Colin A Purdie

BDIAP Symposium on Breast Pathology

Saturday 25th November 2017

Case 11

- Female 85
- 2cm lobulated mass right breast, 2-3 o'clock
 - Partly ill-defined
 - Stiff on SWE
 - Suspicious of high grade Ca
- CT shows bone lesions

Case 11

- Female 85
- Weight loss, abdominal distension, cannot tolerate colonoscopy
- CT chest, abdomen & pelvis
 - 22mm hyperdense & enhancing lesion right breast
 - Several suspicious regions within the axial skeleton
 - Small rounded sclerotic focus within T9 vertebral body suspicious of metastasis
 - Fracture L2 vertebral body which is suspicious

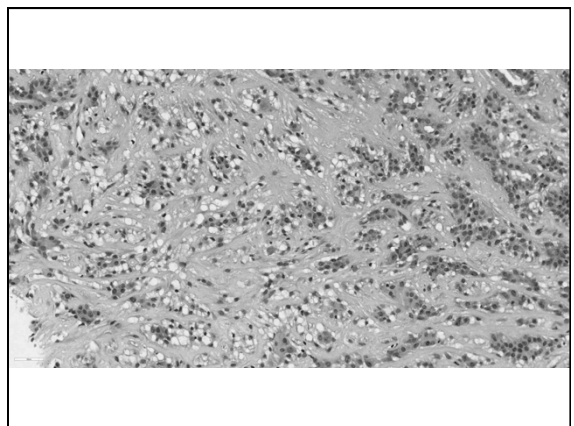
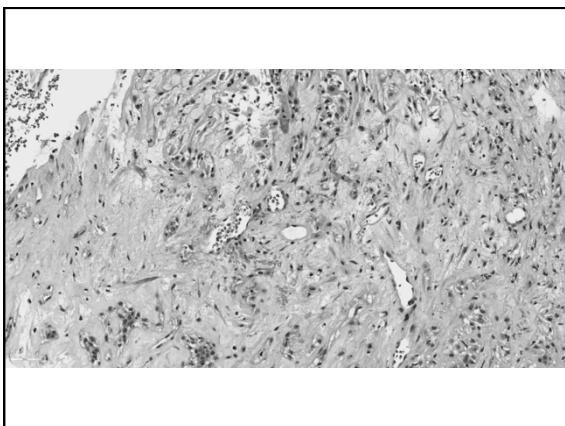
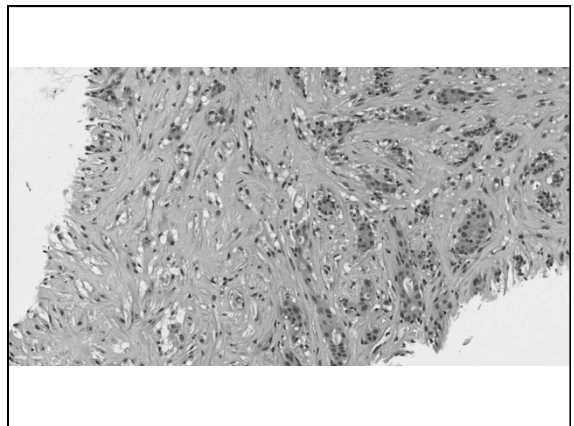
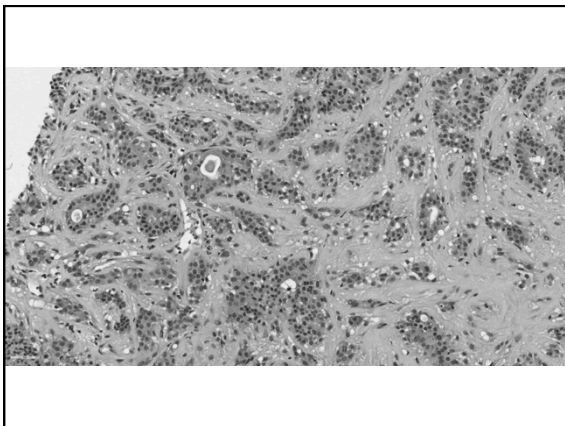
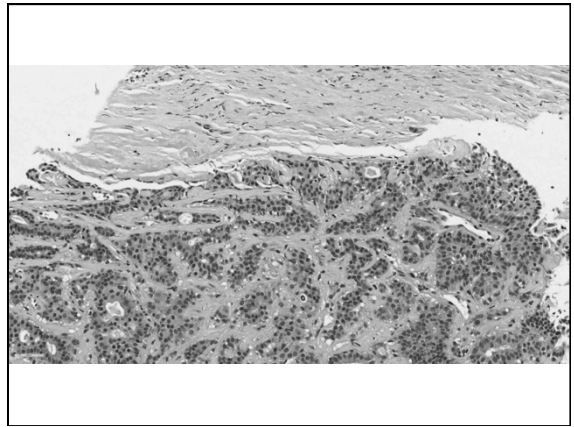
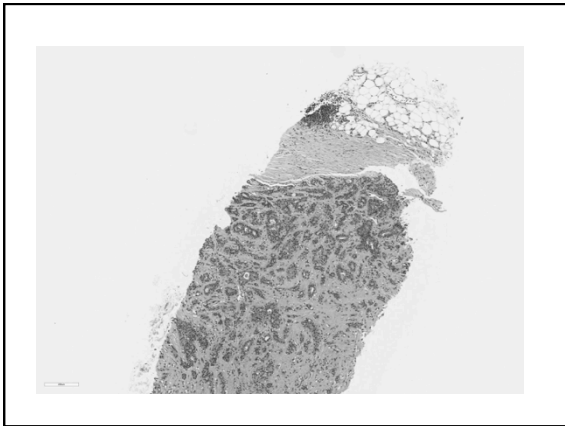
Breast clinic

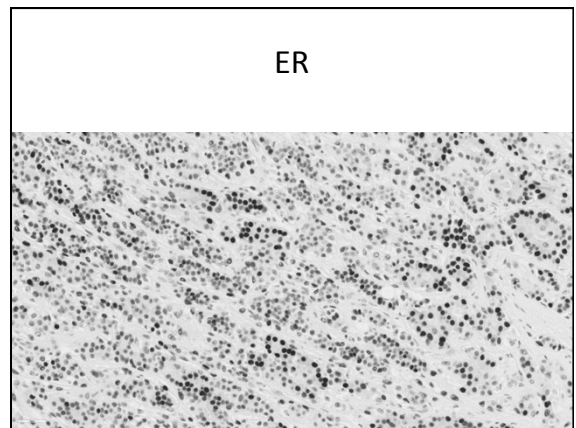
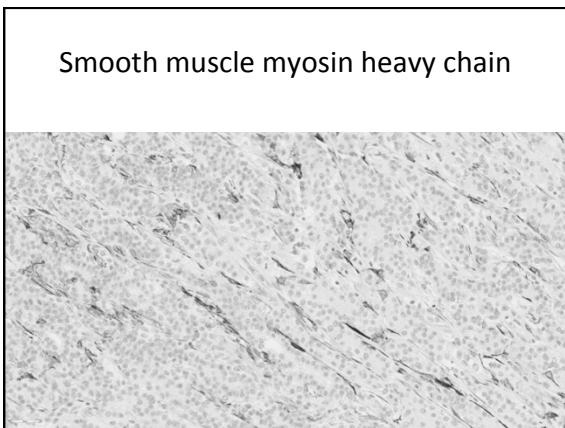
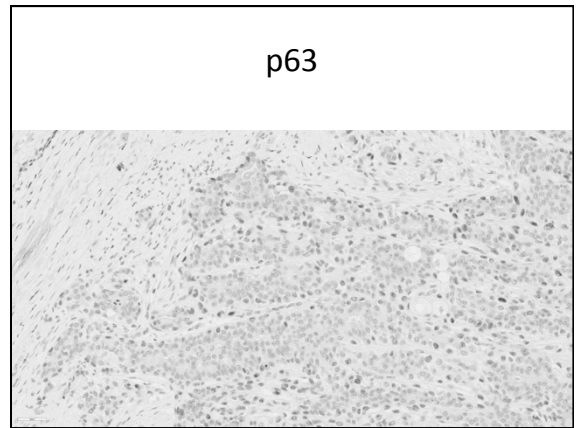
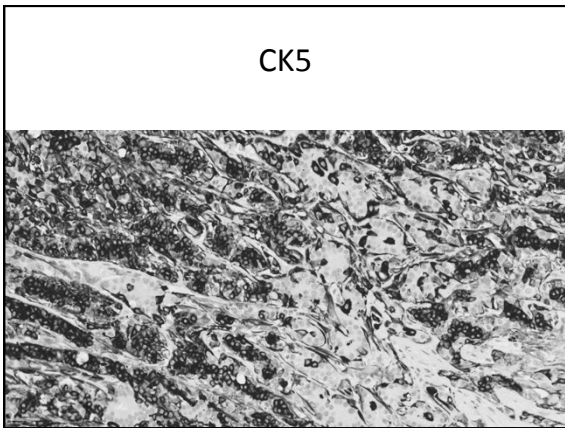
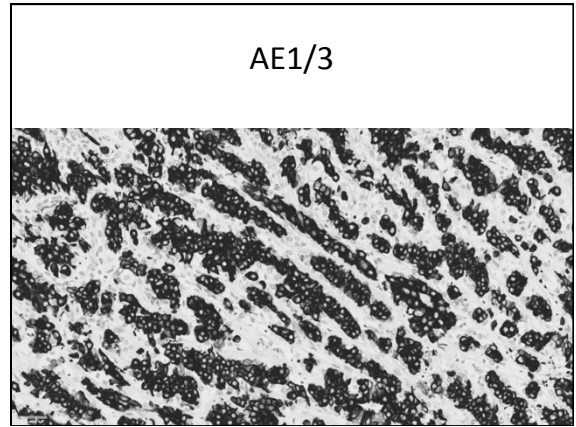
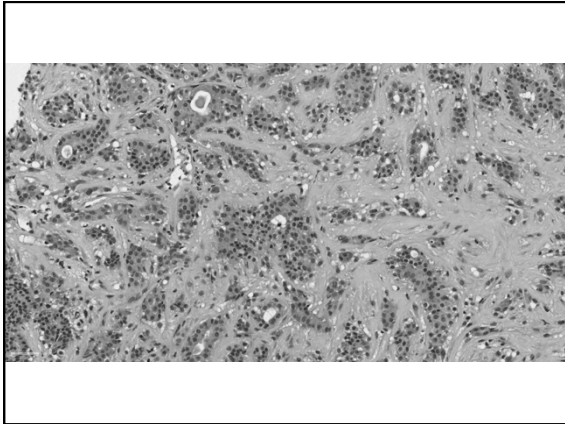
- Clinical History :
 - CT Scan for anaemia showed skeletal met and susp lesion rt breast. Clinically 2x2 cm lump top rt breast(marked) Please scan and core if possible.
- XR Mammogram Both :
 - There is a fatty background pattern. In the right breast there is a 2.1 cm maximum diameter dense lobulated mainly well defined mass which is suspicious of carcinoma, and dense enlarged axillary lymph nodes. Right M4, left M1.

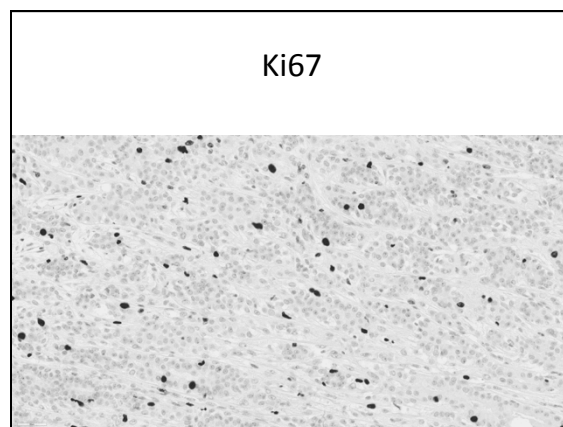
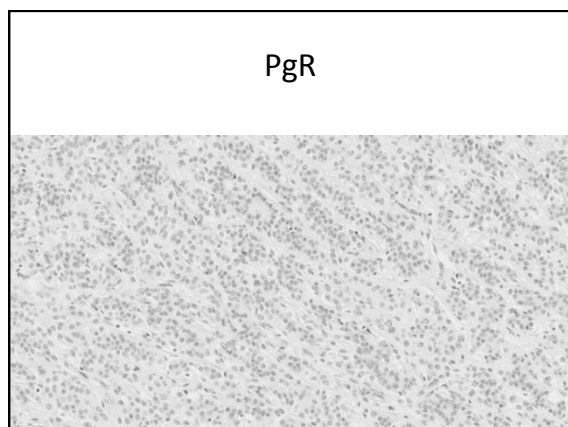
Breast clinic

- US Breast Rt :
 - In the right breast 2 o'clock position, there is a 2 x 1.9 cm lobulated mass which is stiff and suspicious for cancer, US.
- US Axilla Rt :
 - Three small lymph nodes are identified, which have cortical thickness between 2.6 - 3mm but with hilar effacement. These are indeterminate, suspicious for metastases.





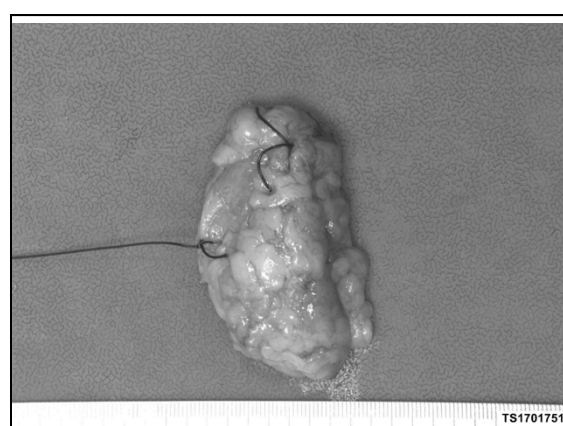


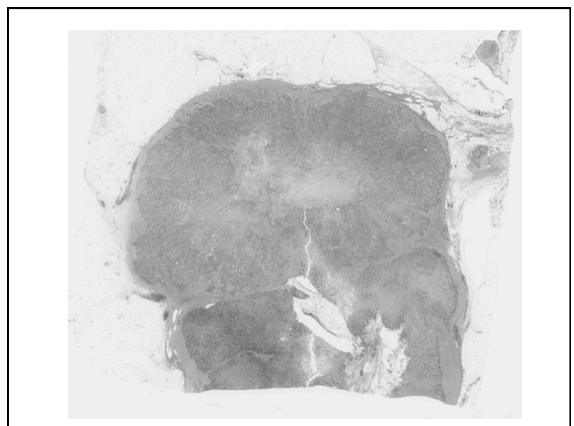
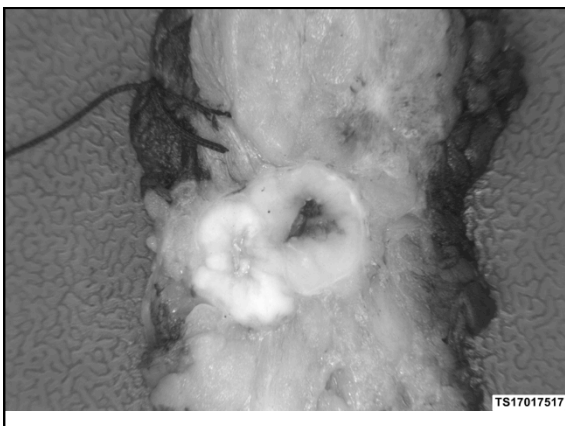
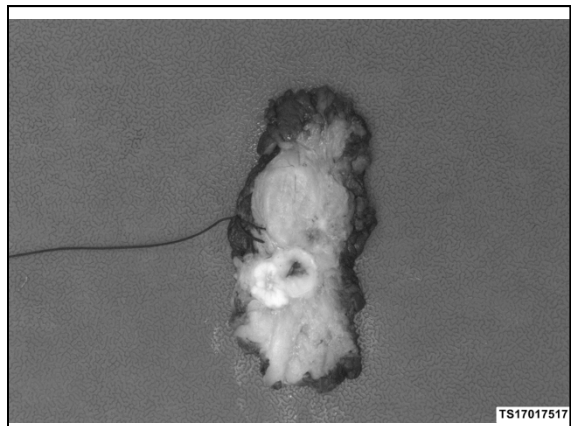
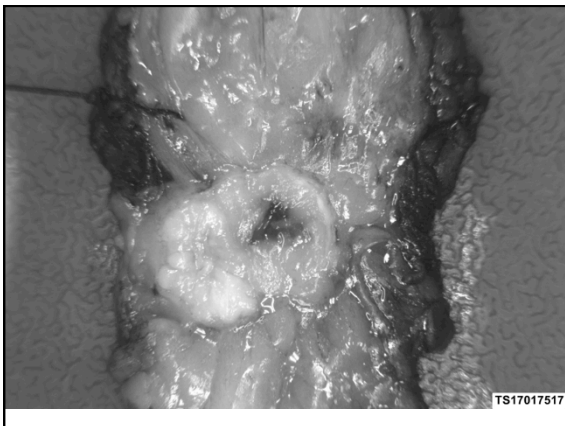
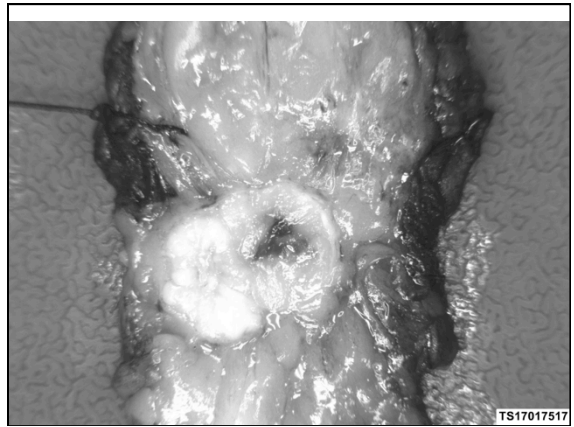
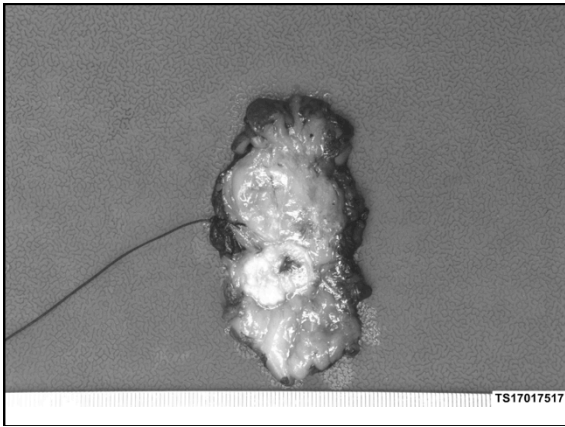


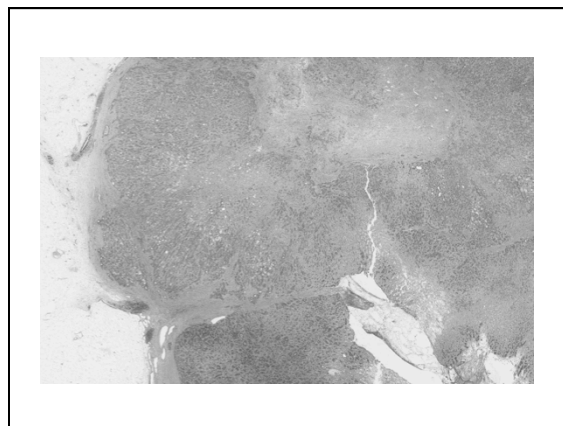
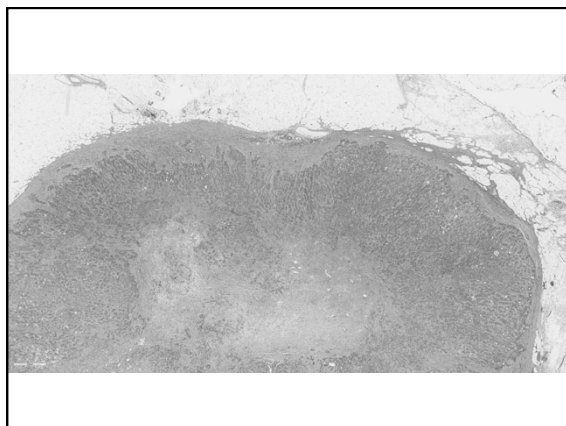
- Case 11**
- Features
 - Circumscribed
 - Biphasic (epithelial and myoepithelial)
 - Appears benign
 - Differential diagnosis
 - Fibroadenoma
 - Tubular adenoma
 - Adenomyoepithelioma

- Case 11**
- Report
 - Probable adenomyoepithelioma
 - Features in the biopsy may not be representative of the whole lesion
 - B3
 - Excision biopsy advisable in light of the radiological suspicions

- Case 11**
- Radiology review of CT
 - All bone lesions are benign!



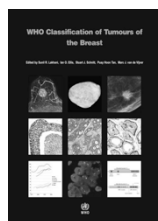




Case 11

- Diagnosis
 - Adenomyoepithelioma

Epithelial and myoepithelial lesions



- Myoepithelial lesions have a dominant population of myoepithelial cells
- Epithelial - myoepithelial lesions have a dual population of epithelial and myoepithelial cells

WHO Classification of Breast Tumours. IARC, 2012

	Myoepithelial lesions	Epithelial-myoepithelial lesions
Benign	Myoepithelial hyperplasia Collagenous spherulosis	Pleomorphic adenoma Adenomyoepithelioma
Malignant	Myoepithelial carcinoma*	Adenomyoepithelioma with carcinoma <ul style="list-style-type: none"> – Carcinoma derived from luminal epithelium – Carcinoma derived from myoepithelium – Epithelial-myoepithelial carcinoma (derived from both) Adenoid cystic carcinoma

*Myoepithelial carcinoma (malignant myoepithelioma) is classified under metaplastic carcinoma.

Adenomyoepithelioma

- WHO definition
 - “Tumour formed of a proliferation of myoepithelial cells surrounding small epithelium-lined spaces”
- Very rare – case reports
- Adults of all ages including (even more rarely, men)
- Centrally located mass +/- calcifications
- Dense, lobulated mass on imaging

Adenomyoepithelioma

- **Macro**
 - Solid rounded nodules, median size 25mm
- **Micro**
 - Proliferation of myoepithelial cells surrounding small epithelium-lined spaces
 - Lobulated, papillary, tubular & mixed patterns are possible
 - Satellite nodules may occur at periphery
 - Uniform admixture of elements

Adenomyoepithelioma

- **Myoepithelial cells**
 - Spindle, epithelioid, glycogen-rich
- **Epithelial cells**
 - Apocrine, squamous, sebaceous
- **Proliferation**
 - Mitotic activity low (<2 per 10 hpf) in both components

Adenomyoepithelioma

- **Malignant change**
 - Rapid growth in a long-standing stable mass
 - **Epithelial component**
 - Invasive (ductal) carcinoma, NST
 - Undifferentiated carcinoma
 - Metaplastic carcinoma
 - **Myoepithelial component**
 - Myoepithelial carcinoma/malignant myoepithelioma/metaplastic carcinoma
 - Needs pre-existing AME to confirm origin
 - **Epithelial & myoepithelial components**
 - Epithelial-myoepithelial carcinoma

Adenomyoepithelioma

- **Malignant change**
 - Infiltrative growth
 - Marked cytological atypia
 - High mitotic count
 - Necrosis

Immunohistochemistry

Epithelial

- CK8/18

Myoepithelial

- CK5
- CK14
- p63
- Actin
- Calponin
- SMMHC

Immunohistochemistry

- ER & PgR weakly positive or negative
- HER2 negative

Prognosis

- AME
 - Local excision curative
 - Rarely recur
- AME with carcinoma
 - Up to 40% metastasize (lung, liver, bone & brain)
 - Related to grade and size of transformed component
 - Axillary node dissection not indicated
 - No good data to support chemo or radiotherapy

References

- Tan P-H, Ellis IO (2013) Myoepithelial and epithelial-myoepithelial, mesenchymal and fibroepithelial breast lesions: updates from the WHO Classification of Tumours of the Breast 2012. *J Clin Pathol* **66**; 465-470.
- Moritz AW, *et al* (2016) Breast adenomyoepithelioma and adenomyoepithelioma with carcinoma (malignant adenomyoepithelioma) with associated breast malignancies: A case series emphasizing histologic, radiologic, and clinical correlation. *Breast* **29**; 132-139.