

Case 14

49 year old Chinese female.

Excision biopsy of a 3cm right breast lump.

Presented by Dr Puay Hoon Tan



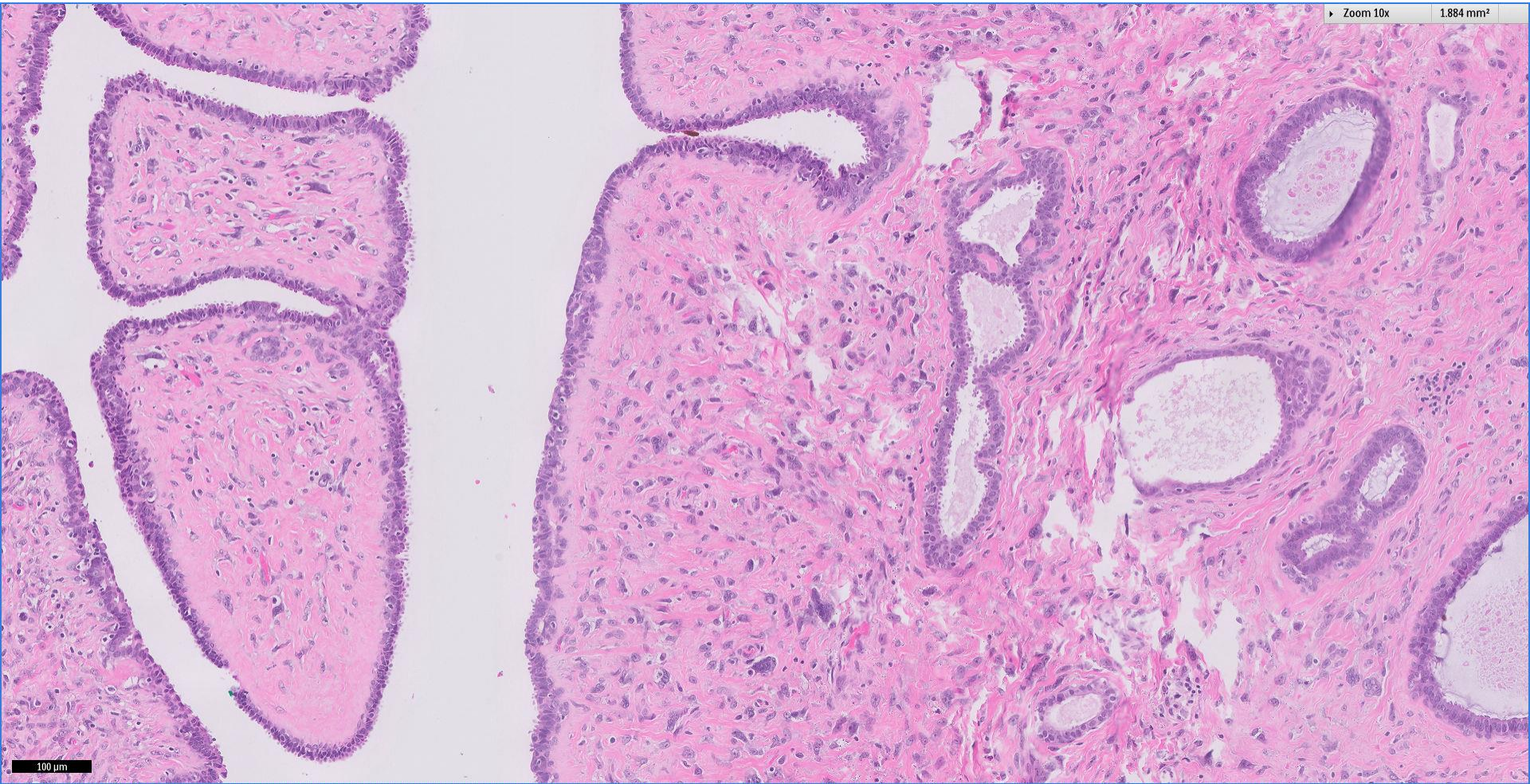
Division of Pathology
Singapore General Hospital





Zoom 10x

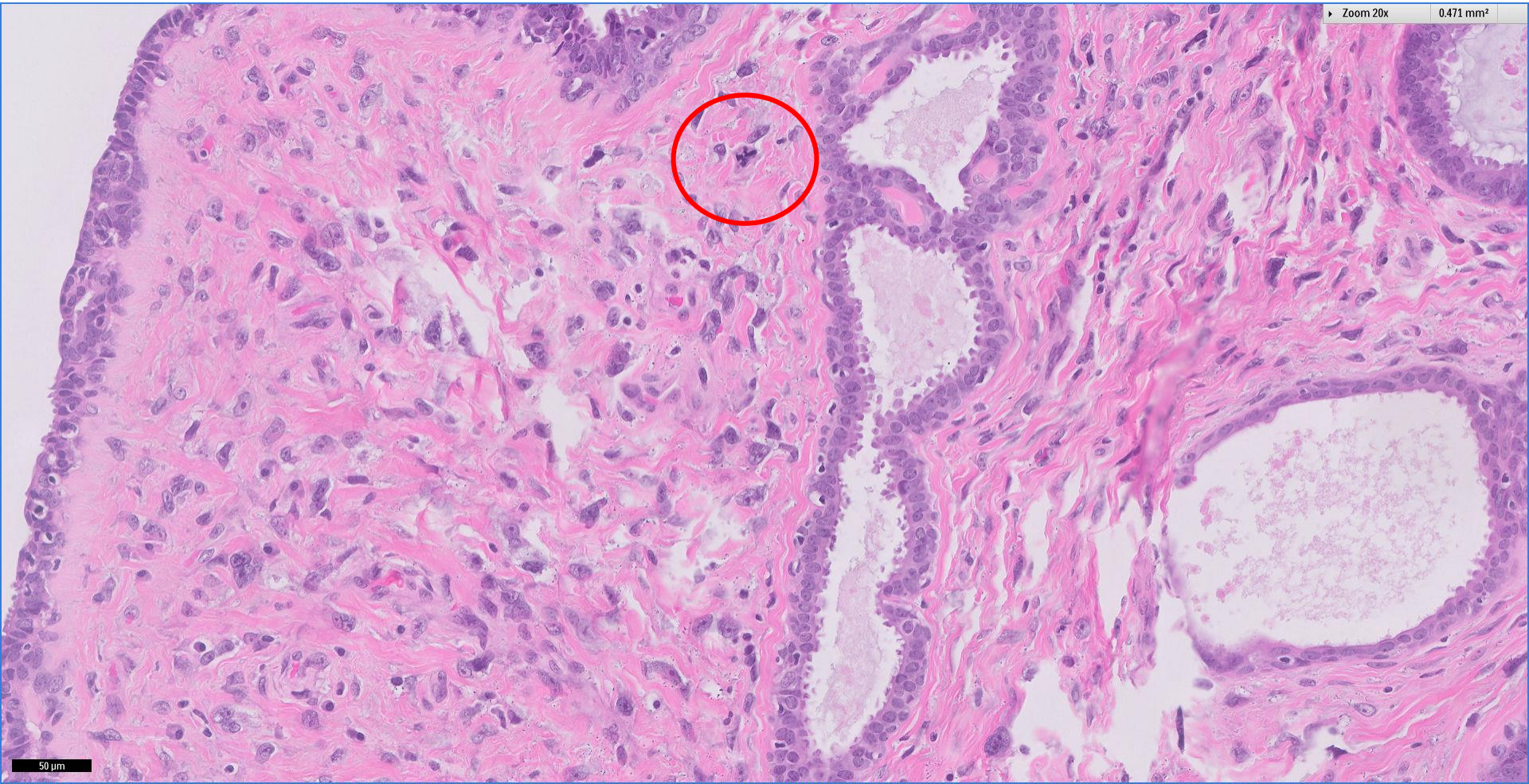
1.884 mm²



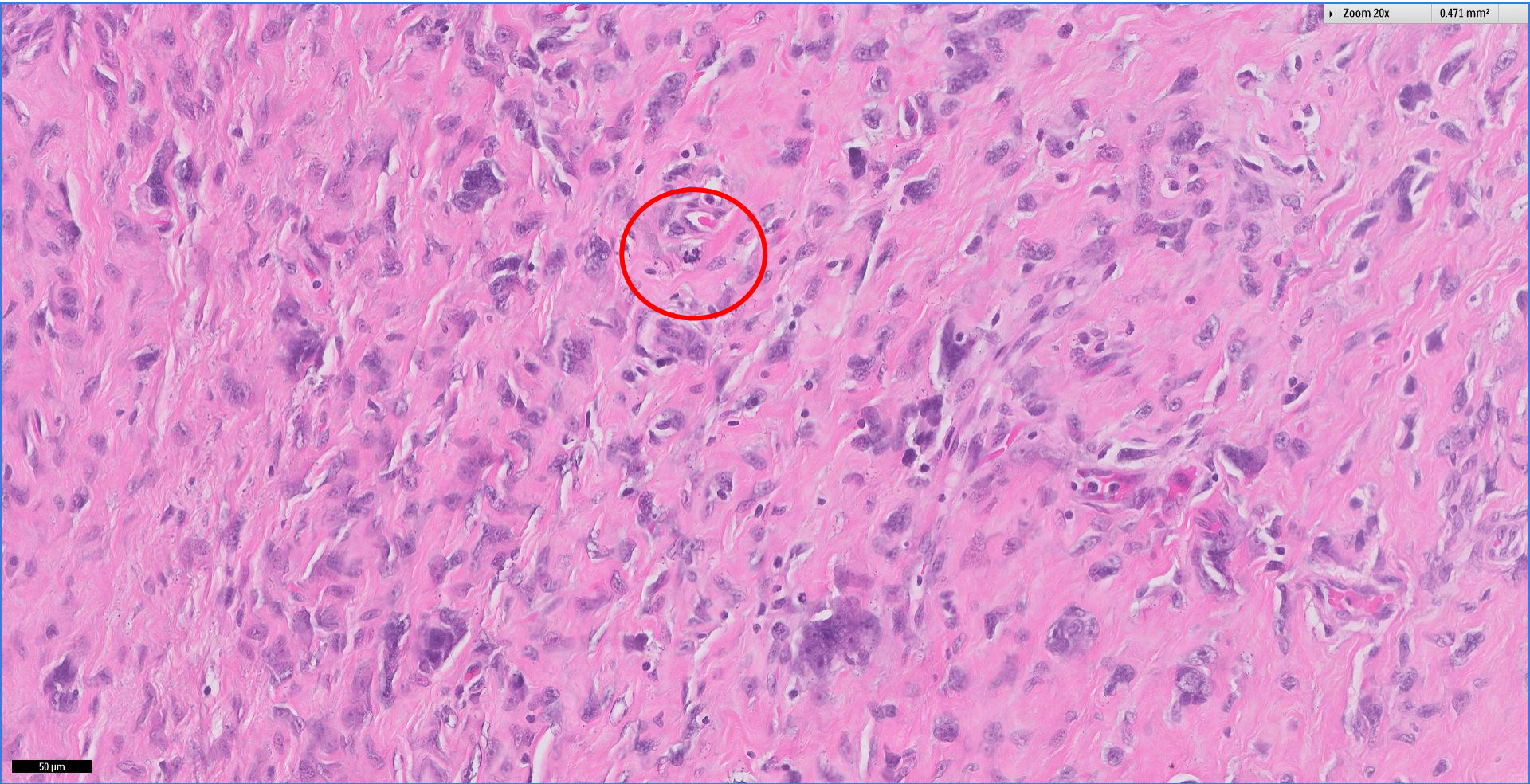
100 μ m

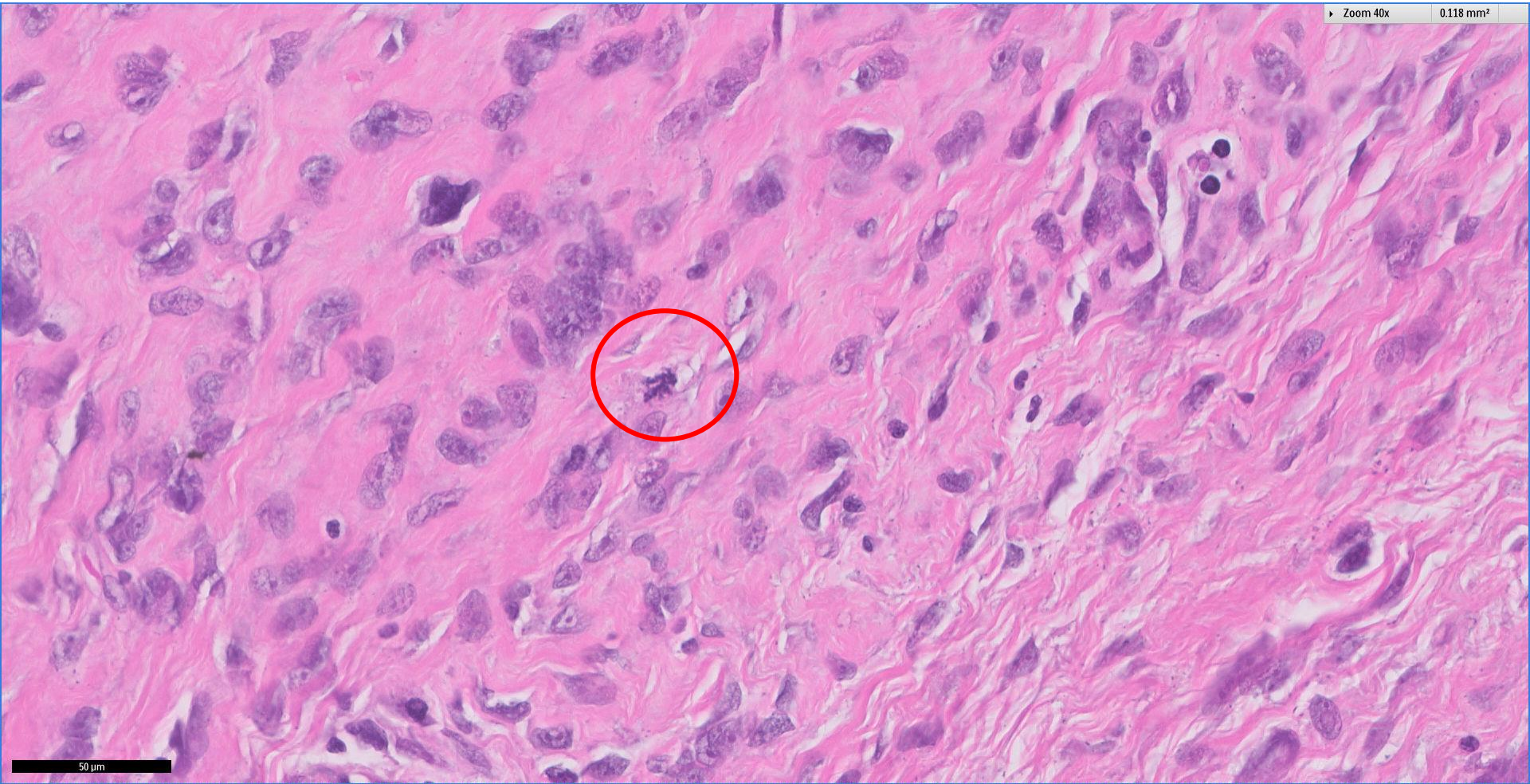
Zoom 20x

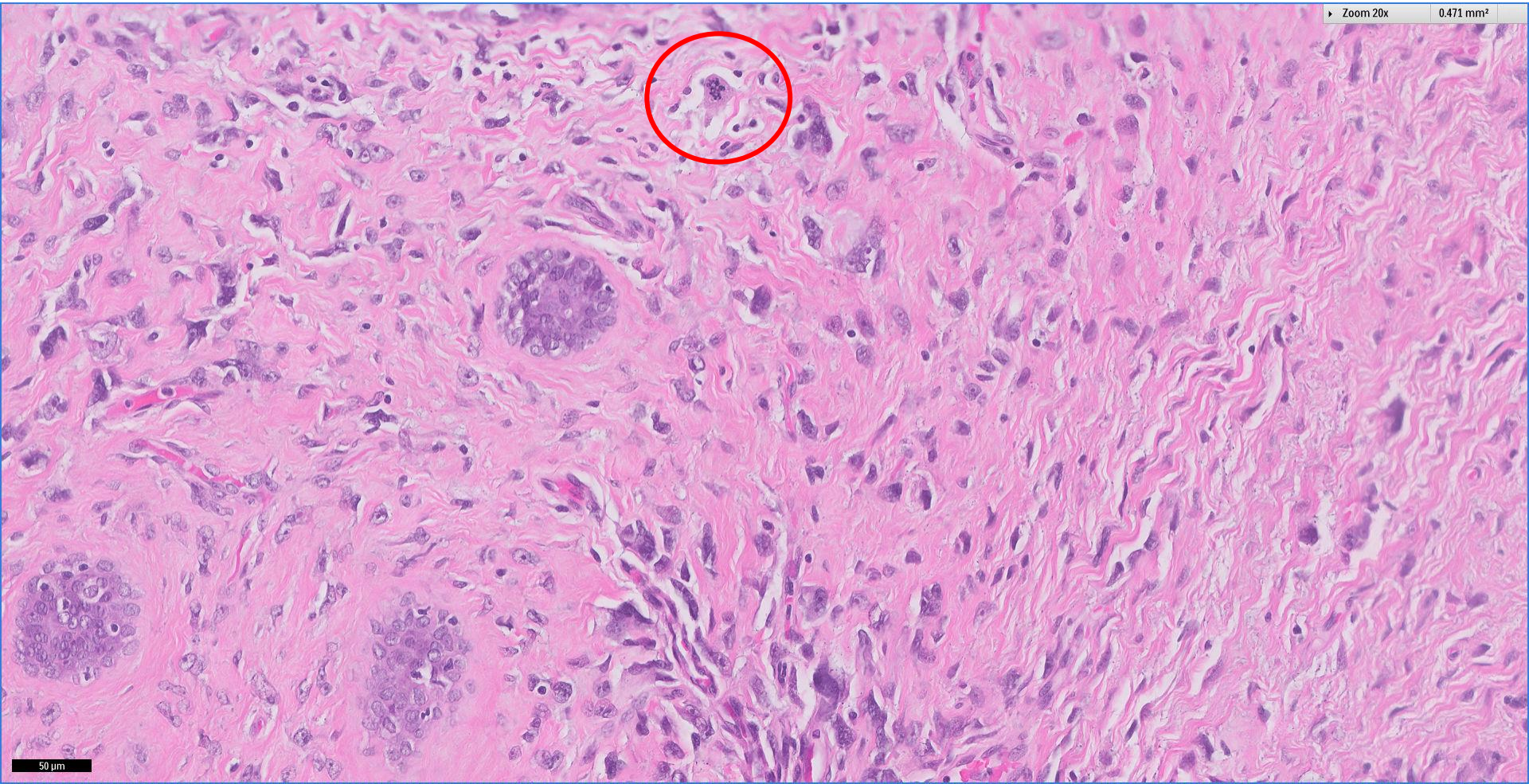
0.471 mm²

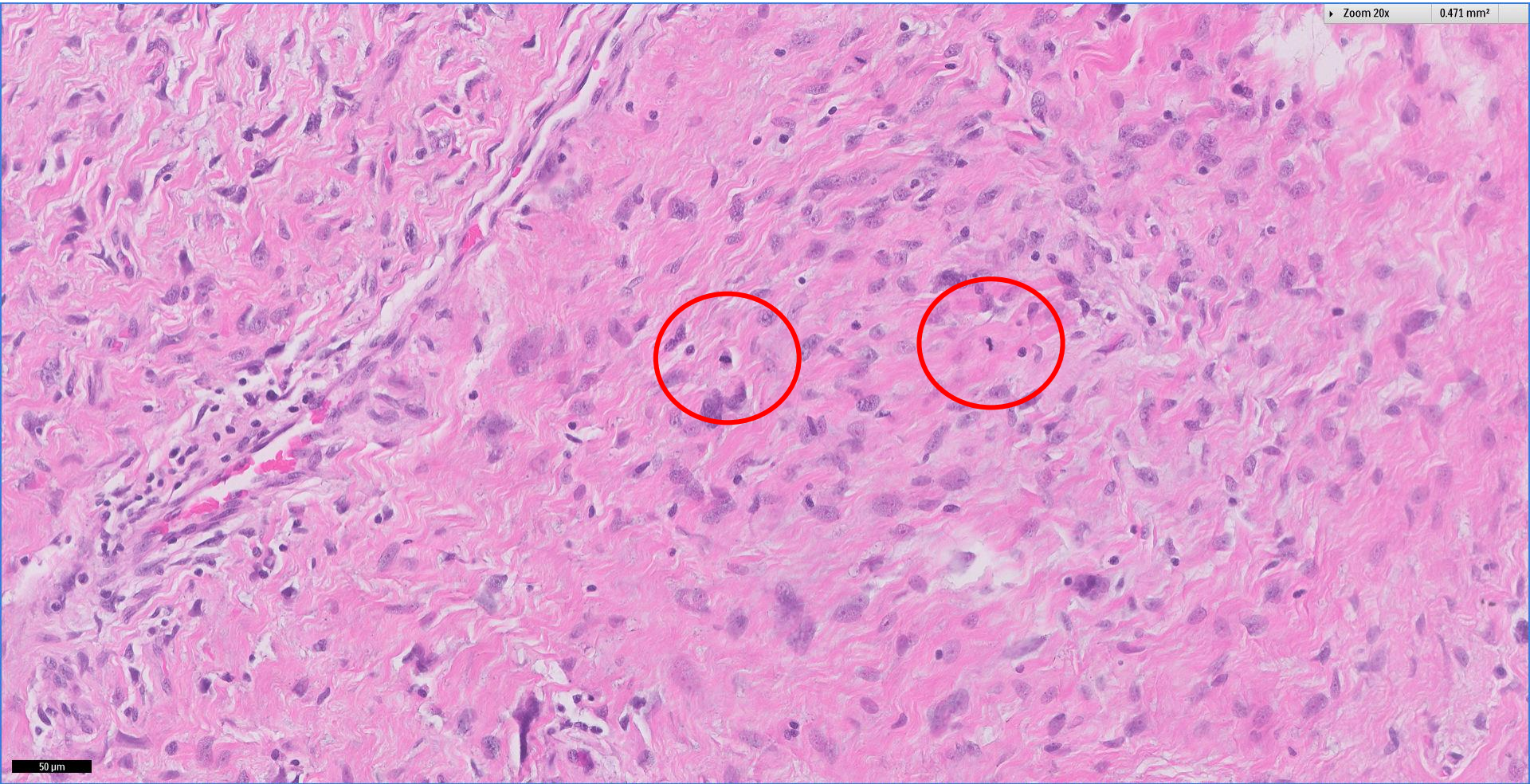


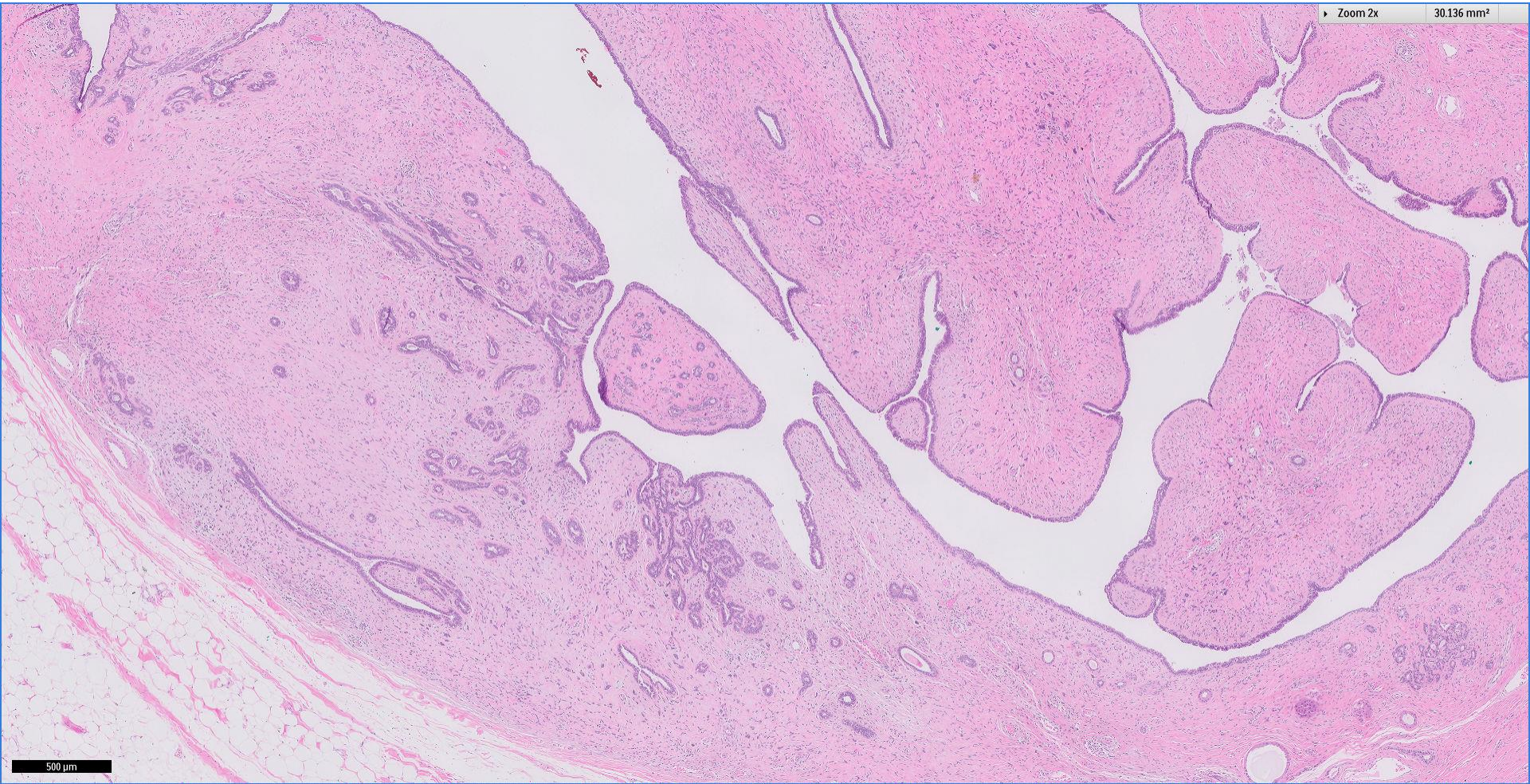
50 μm











500 μ m

Diagnosis

Phyllodes tumour, borderline



Diagnosis of borderline grade based on ~

- Stromal atypia (moderate)
- Stromal hypercellularity (mild to moderate)
- Increased mitoses (6 per 10 high power fields)
- Abnormal mitoses



Breast phyllodes tumour

- **Benign, borderline, malignant** grades based on a constellation of histological features ~
 - ❖ tumour border
 - ❖ stromal cellularity
 - ❖ stromal atypia
 - ❖ stromal mitotic activity
 - ❖ stromal overgrowth



Grading of breast phyllodes tumours

Histological feature	Fibroadenoma	Phyllodes tumours		
		Benign	Borderline	Malignant
Tumour border	Well defined	Well defined	Well defined, may be focally permeative	Permeative
Stromal cellularity	Variable, scant to uncommonly cellular, usually uniform	Cellular, usually mild, may be non-uniform or diffuse	Cellular, usually moderate, may be non-uniform or diffuse	Cellular, usually marked and diffuse
Stromal atypia	None	Mild or none	Mild or moderate	Marked
Mitotic activity	Usually none, rarely low	Usually low: < 2.5 mitoses/mm ² (< 5 per 10 HPFs)	Usually frequent: 2.5 to < 5 mitoses/mm ² (5–9 per 10 HPFs)	Usually abundant: ≥ 5 mitoses/mm ² (≥ 10 per 10 HPFs)
Stromal overgrowth	Absent	Absent	Absent (or very focal)	Often present
Malignant heterologous elements	Absent	Absent	Absent	May be present* (<i>liposarcoma excluded</i>)
Distribution relative to all breast tumours	Common	Uncommon	Rare	Rare
Relative proportion of all phyllodes tumours	n/a	60 – 75%	15 – 26%	8 – 20%

Borderline phyllodes tumour

- 15% to 26% of all phyllodes tumours.
- Histological features are insufficient for a malignant diagnosis.
- Focally infiltrative borders.
- Moderately increased stromal cellularity.
- Mild to moderate stromal nuclear atypia.
- Frequent mitoses (5 to 9 per 10 hpf or 2.5 to < 5 mitoses/mm²).
- Rare stromal overgrowth.

Stromal multinucleated cells

- Seen in benign breast tissue, fibroadenomas, phyllodes tumours.
- May appear bizarre due to degenerative atypia.
- Important not to overinterpret the atypia.
- For phyllodes tumours – prudent to evaluate non-multinucleated stromal cells to assess stromal atypia.
- Immunohistochemistry for Ki67 and p53 may be helpful in grading calibration.

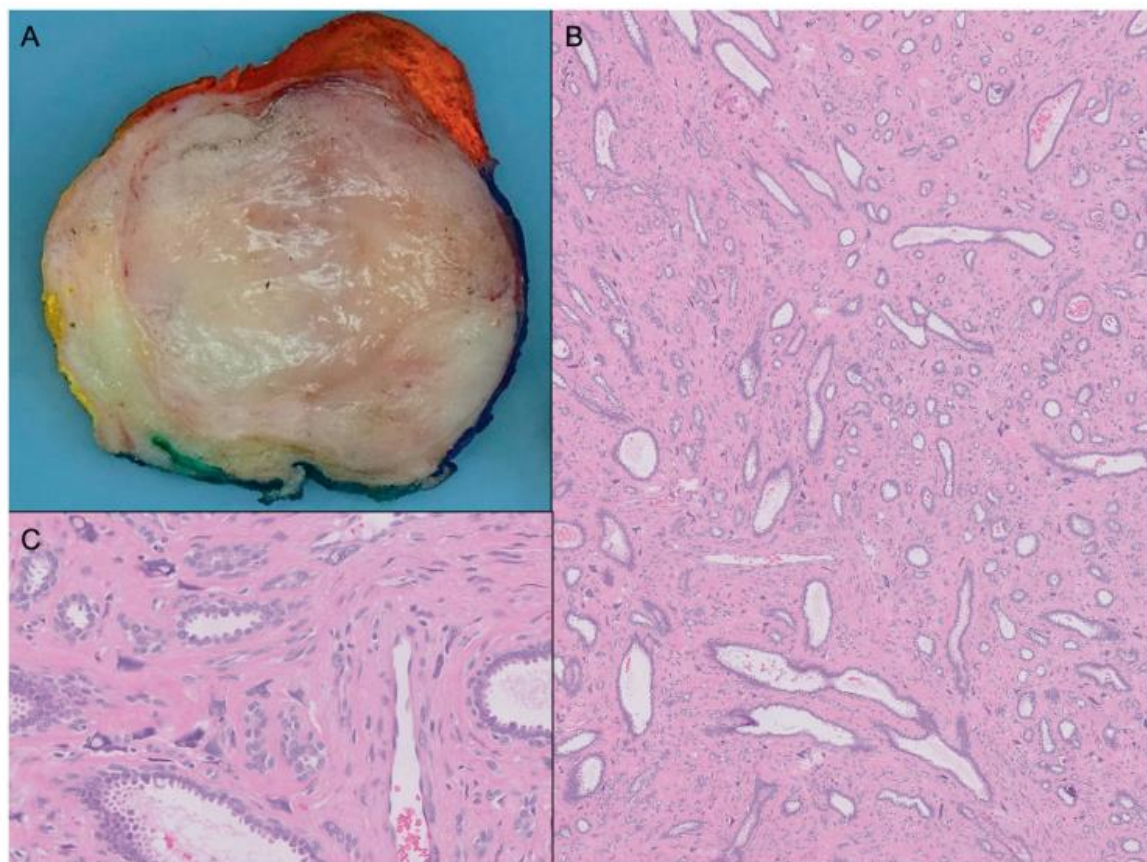


Fig. 16 Benign fibroepithelial tumour with hybrid tubular adenoma and fibroadenoma areas and bizarre multinucleated stromal cells. a Gross appearance of the benign tumour with circumscribed borders and a fibrous myxoid cut-surface. **b** Stroma in between the

epithelial component shows low cellularity with scattered enlarged stromal cells. **c** High magnification of the abnormal stromal cells with multilobated nuclei and nuclear inclusions. Spindled stromal cells present are without atypia or mitoses.

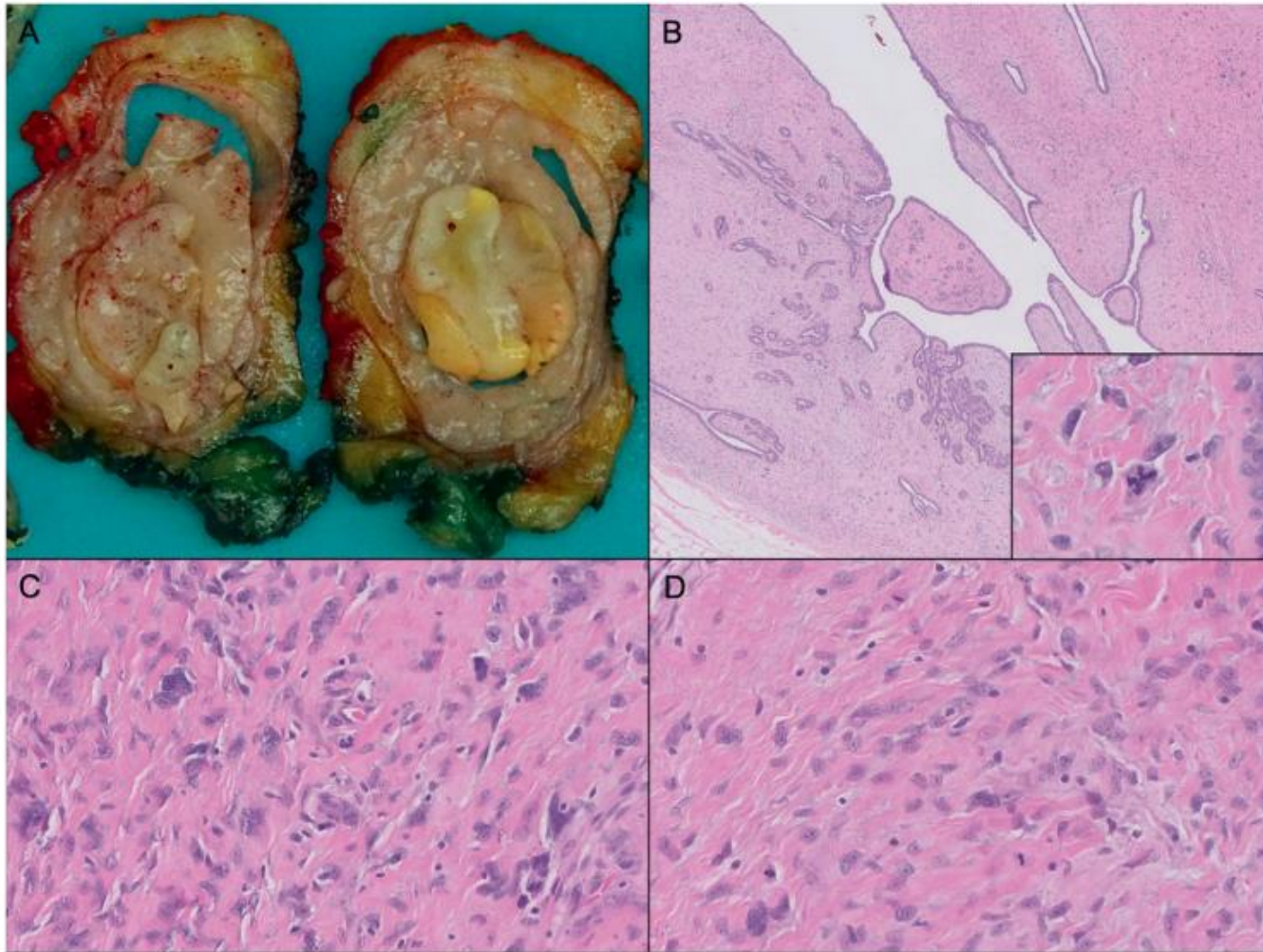


Fig. 17 Borderline phyllodes tumour with stromal giant cells. **a** Gross appearance of the phyllodes tumour with clefts and myxoid fronds. Yellowish areas correspond to infarction. **b** Low magnification

shows phyllodal architecture with stromal fronds. Inset reveals a quadripolar mitosis. **c, d** Stromal cells among the giant forms display atypia and scattered mitoses.

Thank you!



Celebrating 118 years of Pathology history in Singapore

