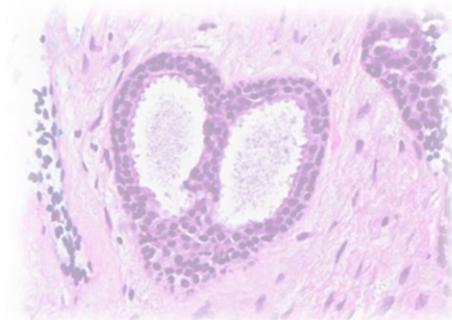
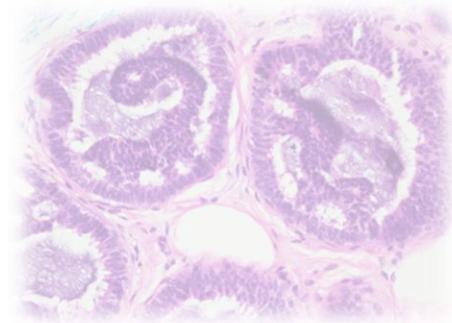
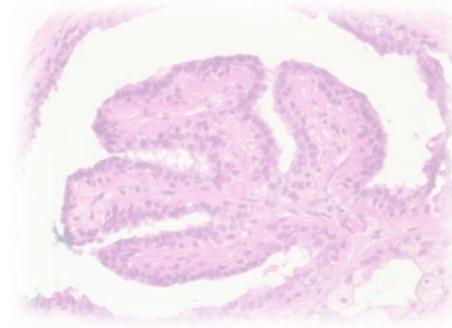
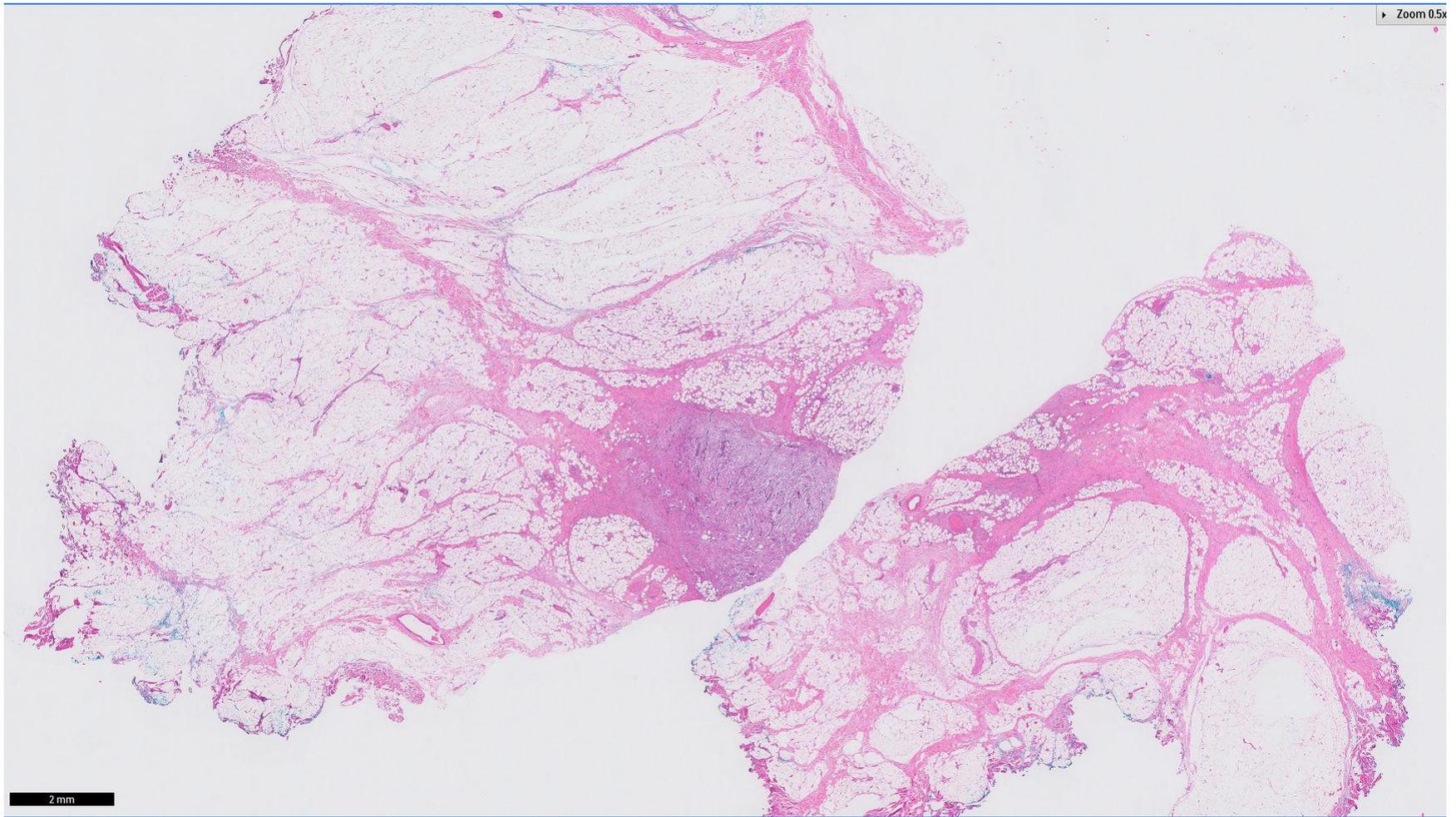


## Case 21

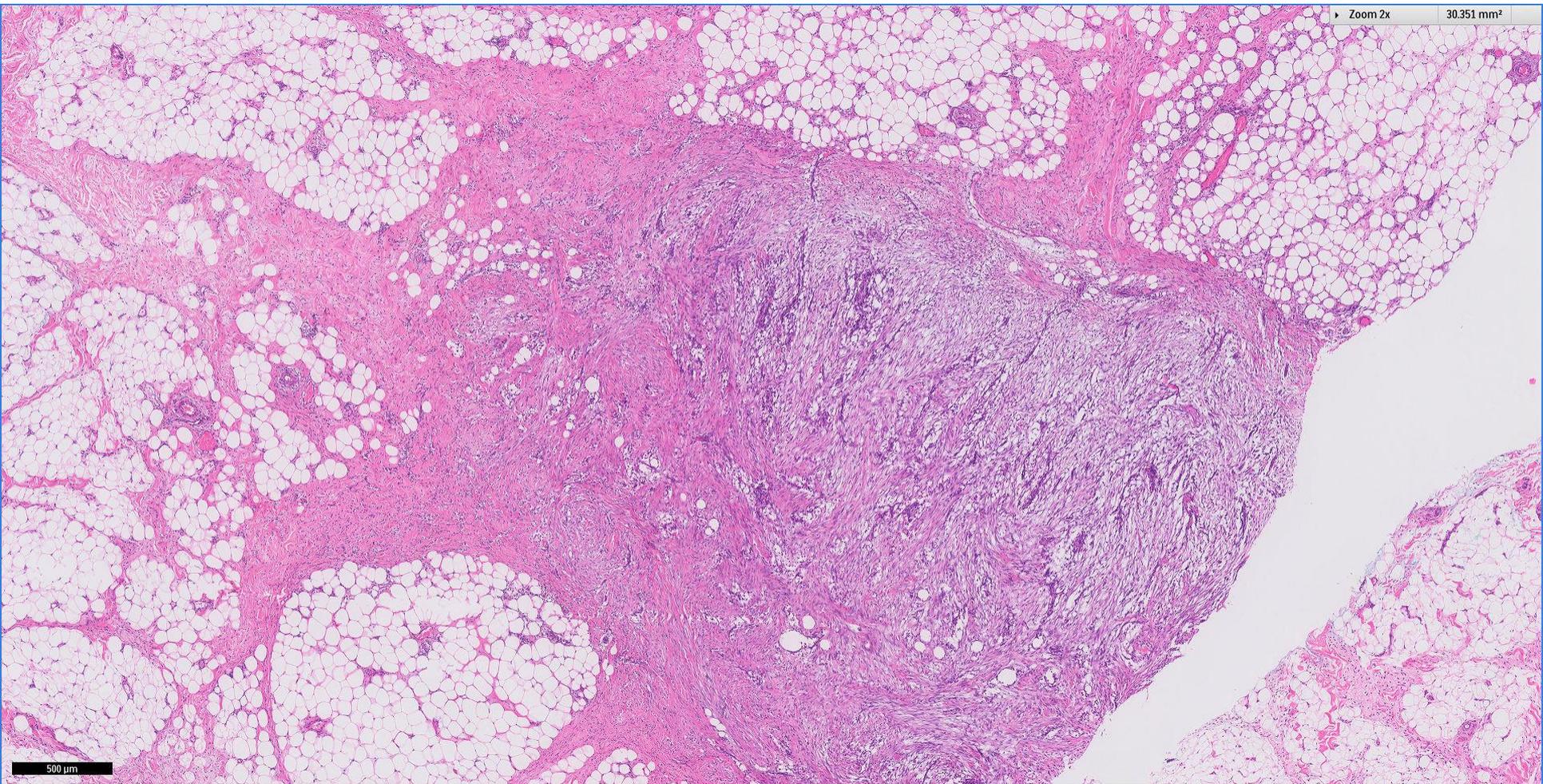
63 year old Indonesian female.  
Right breast lump, excision biopsy.

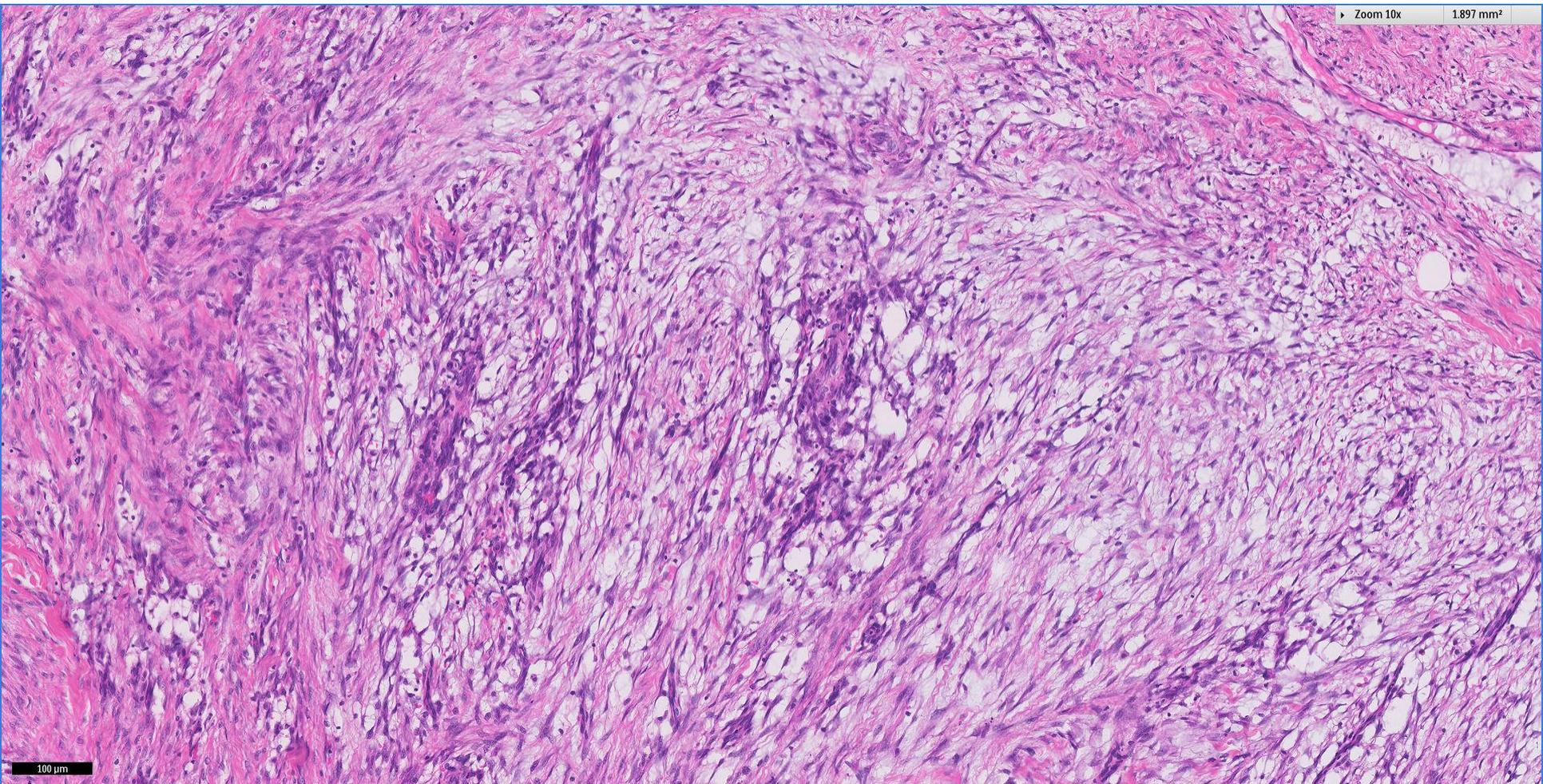


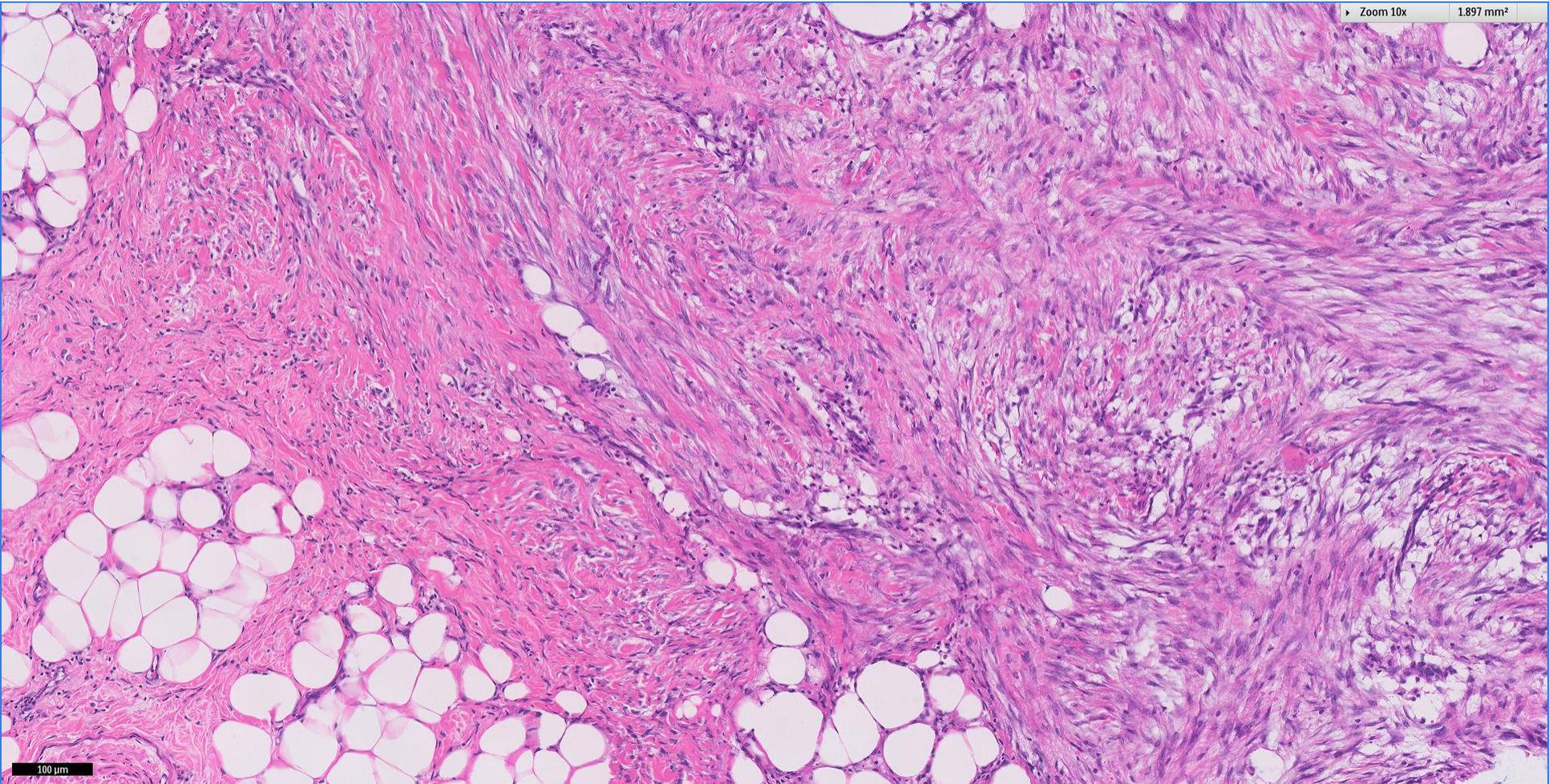


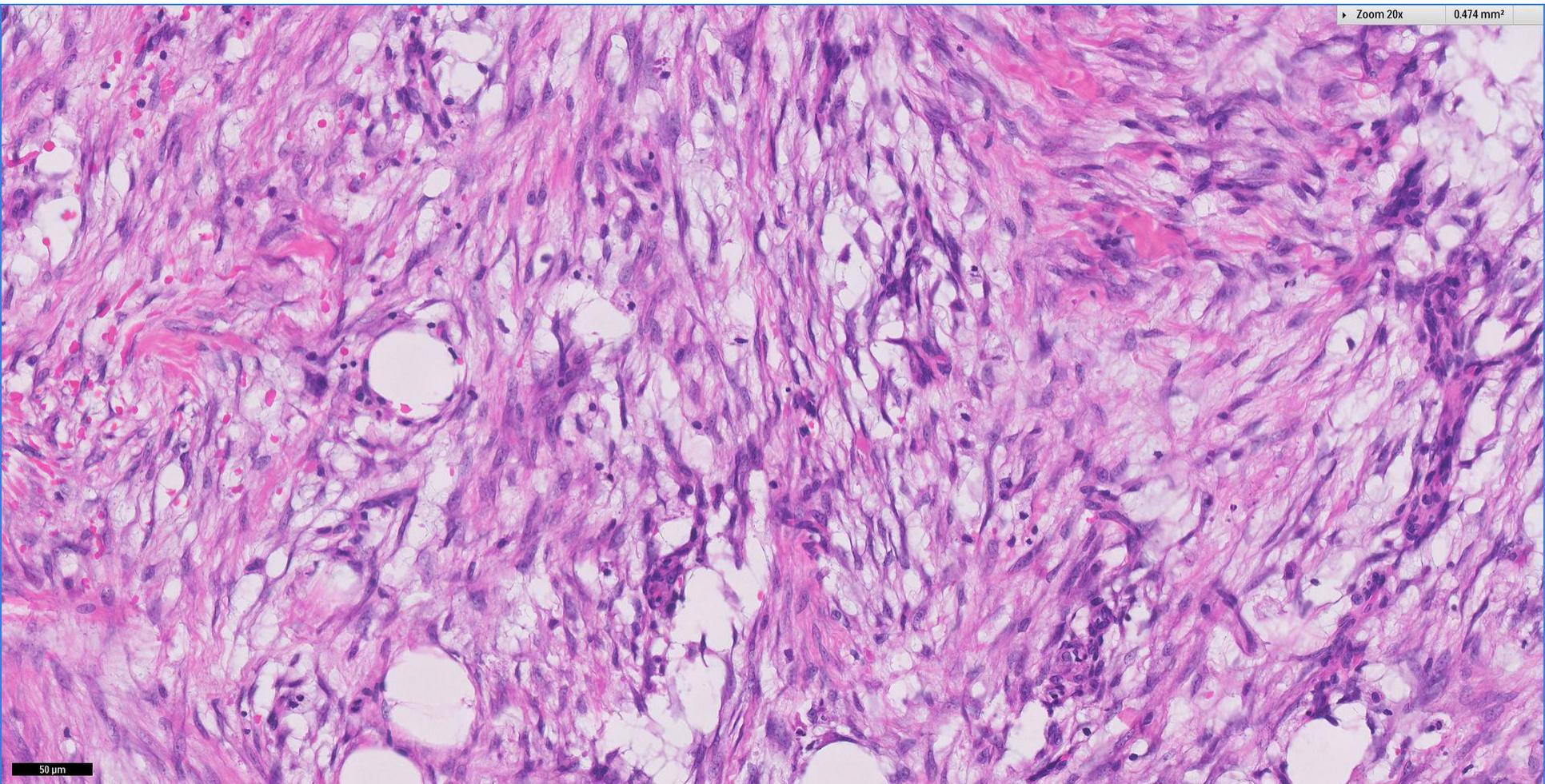
Division of Pathology  
Singapore General Hospital





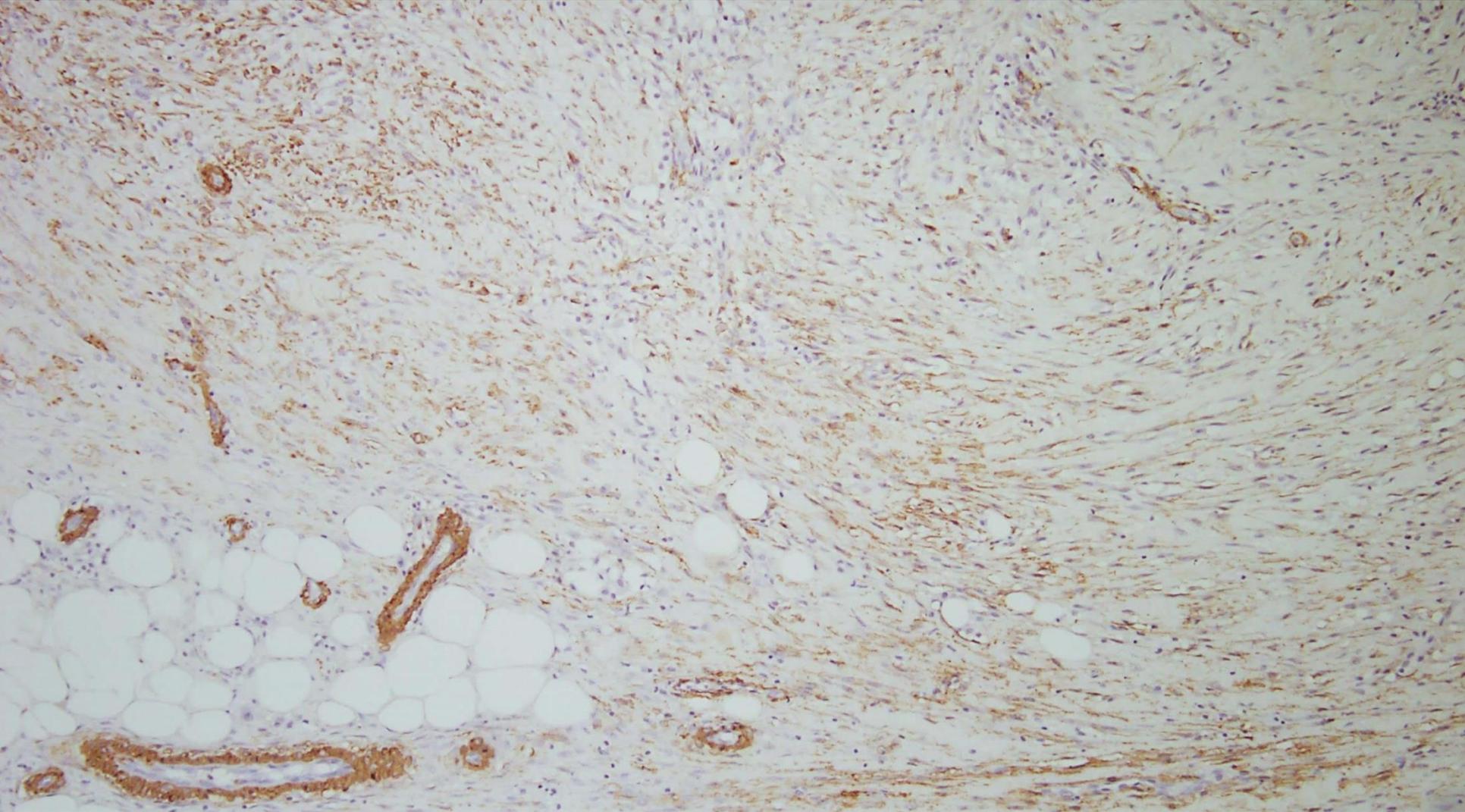






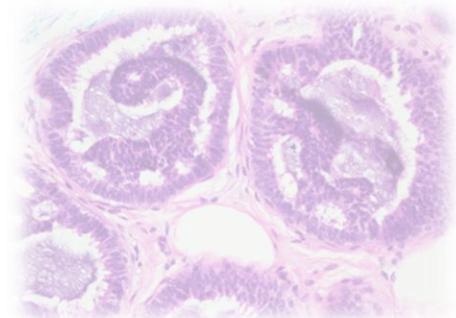
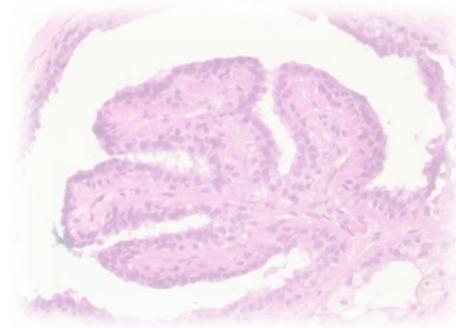
50 μm

# SMA



# Diagnosis, case 21

- Right breast lump, excision biopsy:  
Nodular fasciitis.



# *Nodular fasciitis ~ definition*

- Self-limited, benign clonal proliferation of fibroblastic/myofibroblastic cells.

WHO 2019

# *Nodular fasciitis*

- **Localisation** ~
  - Subcutis and breast parenchyma.
  - Usually UOQ.
- **Clinical features** ~
  - Rapidly growing mass that may be tender/painful or painless.
  - Typically enlarges over several weeks, then regresses over several months.
  - Most cases are <5cm in diameter, usually 0.6-6cm.
- **Epidemiology** ~
  - Rare.
- **Etiology** ~
  - Unknown.
- **Pathogenesis** ~
  - Fibroblastic/myofibroblastic lineage.
  - May be regarded as a form of transient neoplasia that consistently regresses.

# *Nodular fasciitis*

- **Macroscopic appearance** ~
  - Well circumscribed unencapsulated mass.
  - Gross appearance depends on the proportion of myxoid stroma, collagen and cellularity within the lesion.
- **Histopathology** ~
  - Similar morphology as nodular fasciitis elsewhere.
  - Fibroblasts and myofibroblasts without overt cytological atypia or pleomorphism.
  - Early lesions are more cellular.
  - More mature lesions have more collagen.
  - Mitotic activity can be brisk, but atypical forms are not seen.
  - Feathery tissue culture-like areas are typical.
  - More cellular areas can contain fascicles.
  - Rich and fine vascularity, resembling granulation tissue.
  - Extravasated red blood cells and lymphocytes.
  - Partially infiltrative, without entrapping breast ducts and lobules.
- **Immunohistochemistry** ~
  - SMA positive, focal desmin positive.
  - Negative for cytokeratins, CD34, S100 and nuclear beta-catenin.

# Nodular fasciitis

- **Differential diagnosis** ~
  - Metaplastic /spindle cell carcinoma.
  - Stromal component of phyllodes tumours.
  - Fibromatosis.
  - Pseudoangiomatous stromal hyperplasia.
  - Myofibroblastic tumours.
  - Reactive postbiopsy spindle cell nodules.
  - Myxoid sarcomas.
- **Adequate sampling to confirm absence of epithelial component, with negative keratin staining, is important in distinguishing from metaplastic carcinoma.**
- **Cytology** ~
  - Variable, depending on the age, cellular composition and sampling of the lesion.
  - Spindle cells, extravasated rbc, lymphocytes.
  - Myxoid material, collagen clumps, blood.
- **Diagnostic molecular pathology** ~
  - Nodular fasciitis of soft tissues harbours t(17;22)(p13;q13) in 85% of cases.
  - *USP6* rearrangement in breast nodular fasciitis on FISH.

# *Nodular fasciitis*

- **Essential and desirable diagnostic criteria ~**
  - Essential ~ fibroblastic/myofibroblastic proliferation without substantial atypia, admixed collagen and/or myxoid stroma with fine vasculature; no entrapment of ducts and lobules; no epithelial/biphasic component.
  - Desirable ~ rapid growth (weeks), small size (< 5cm), USP6 gene rearrangement.
- **Prognosis and prediction ~**
  - Complete surgical excision is curative.
  - Spontaneous regression can occur.
  - Local recurrence is very infrequent even with positive margins.

*Thank You*