

## Case 3

64 year old Chinese female.

Radiological 'echo-distortion' in the right breast at 10-12 o'clock.

Core biopsy of the 11-12 o'clock lesion.



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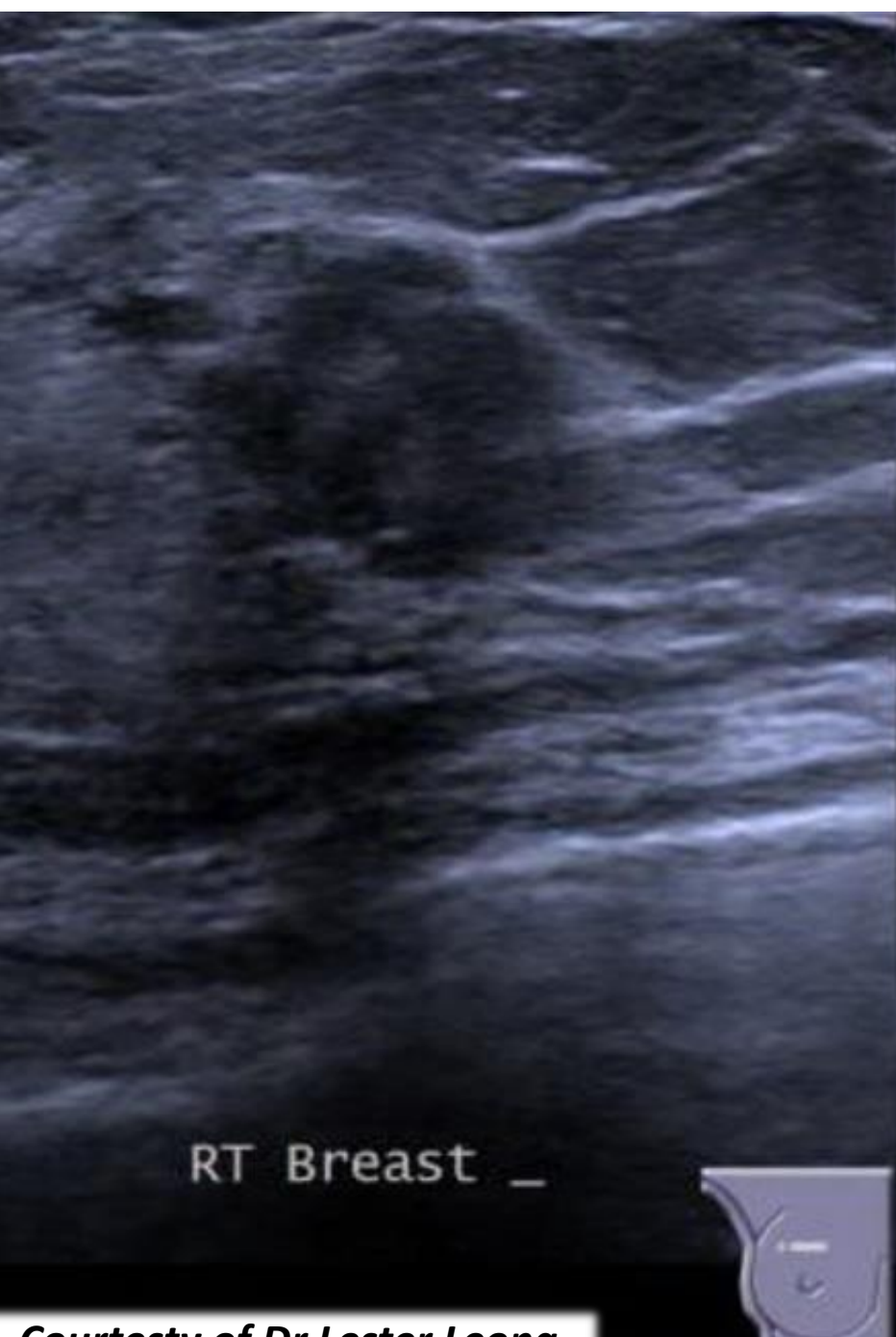


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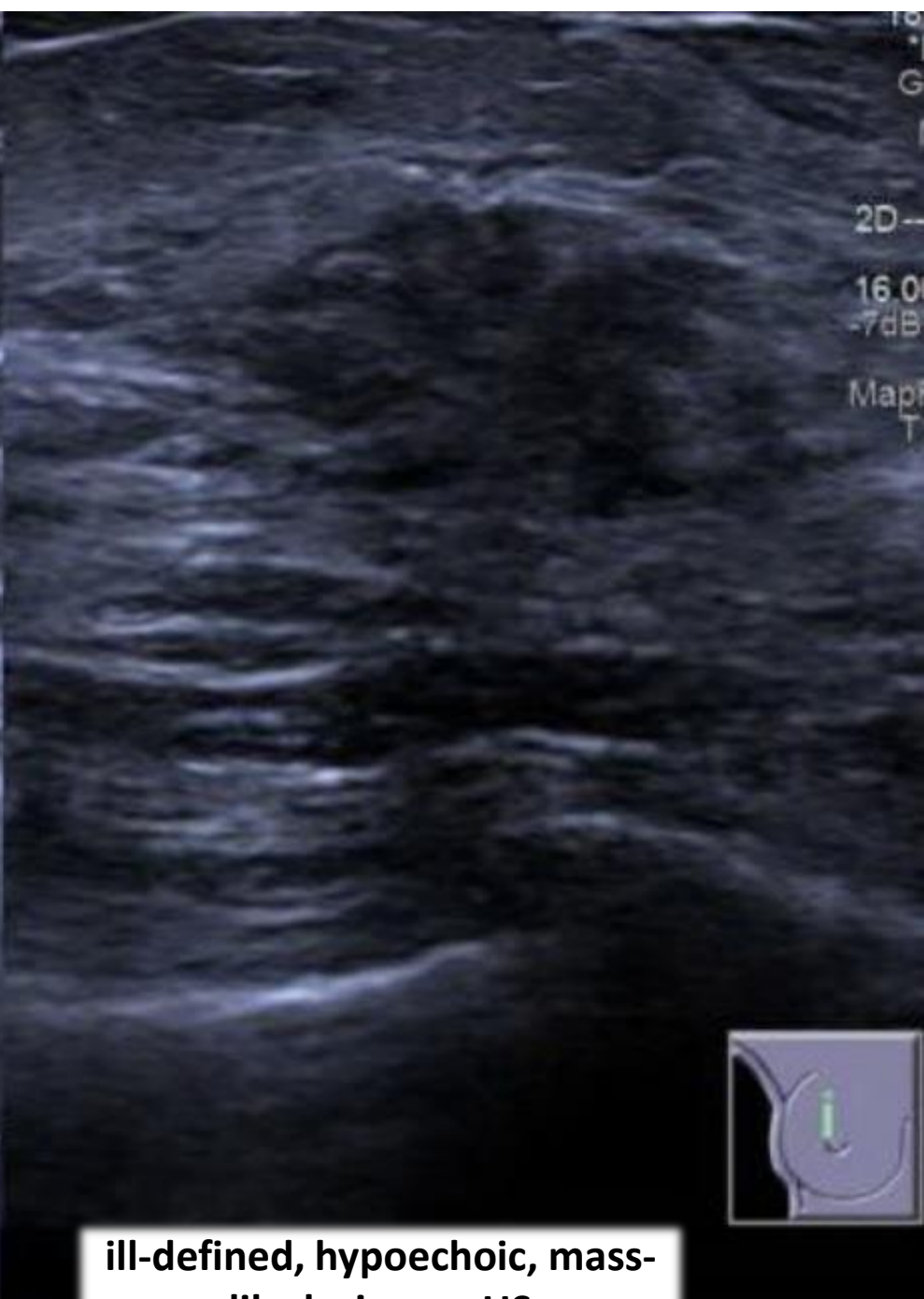
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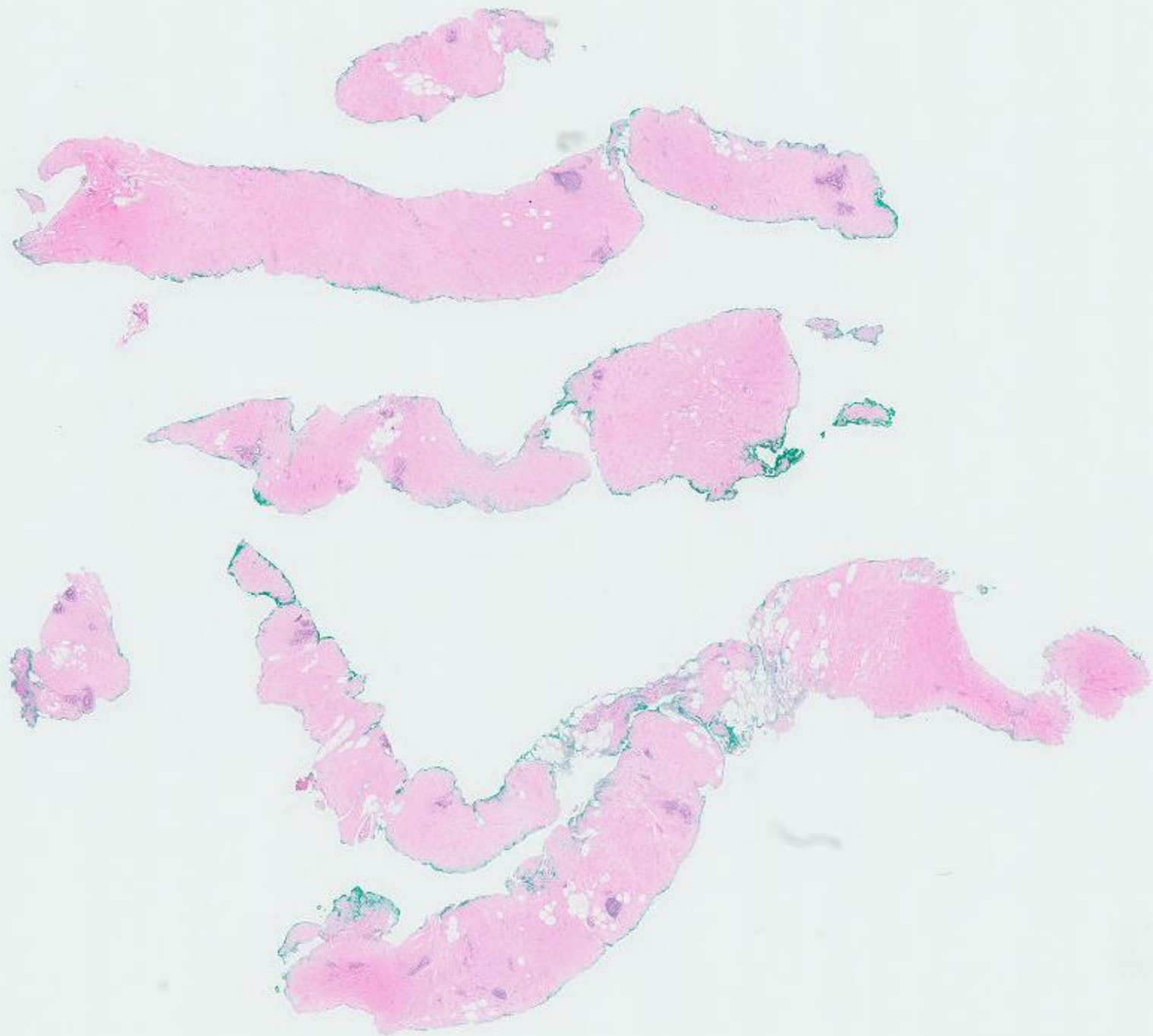
RT Breast \_



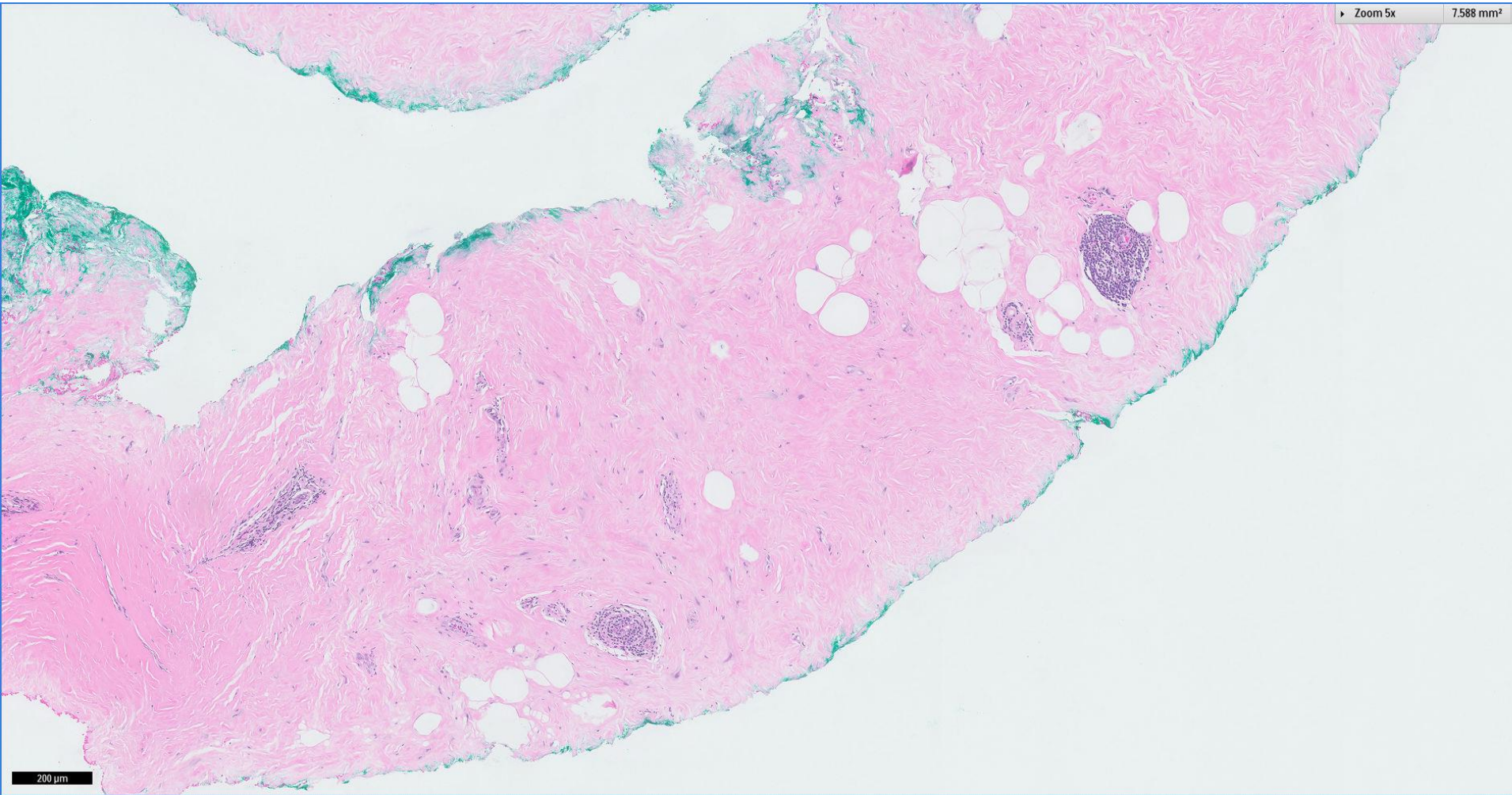
18  
G  
I  
2D  
16.0  
-7dB  
Map  
T

ill-defined, hypoechoic, mass-like lesion on US

*Courtesy of Dr Lester Leong*





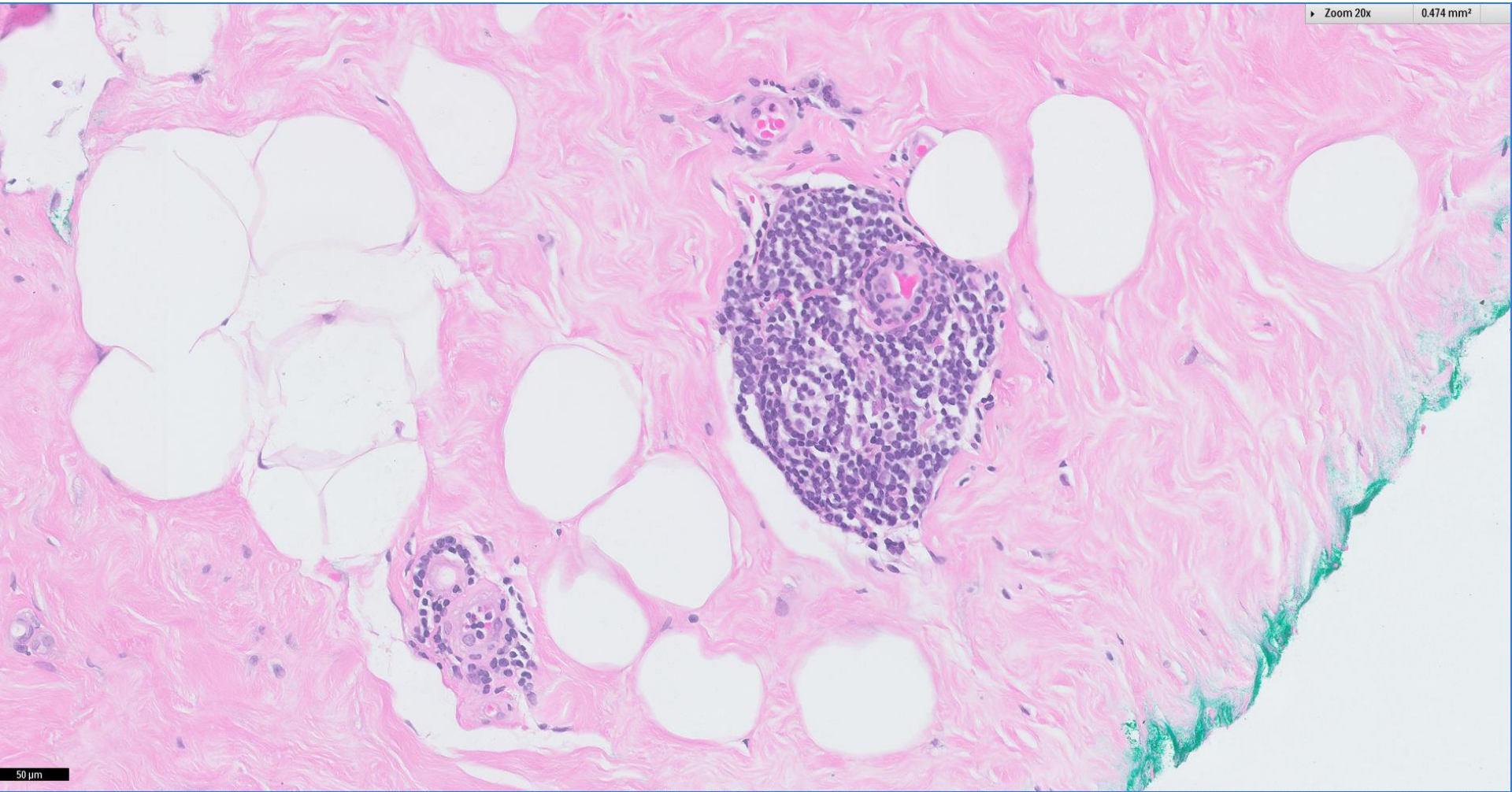


200 μm

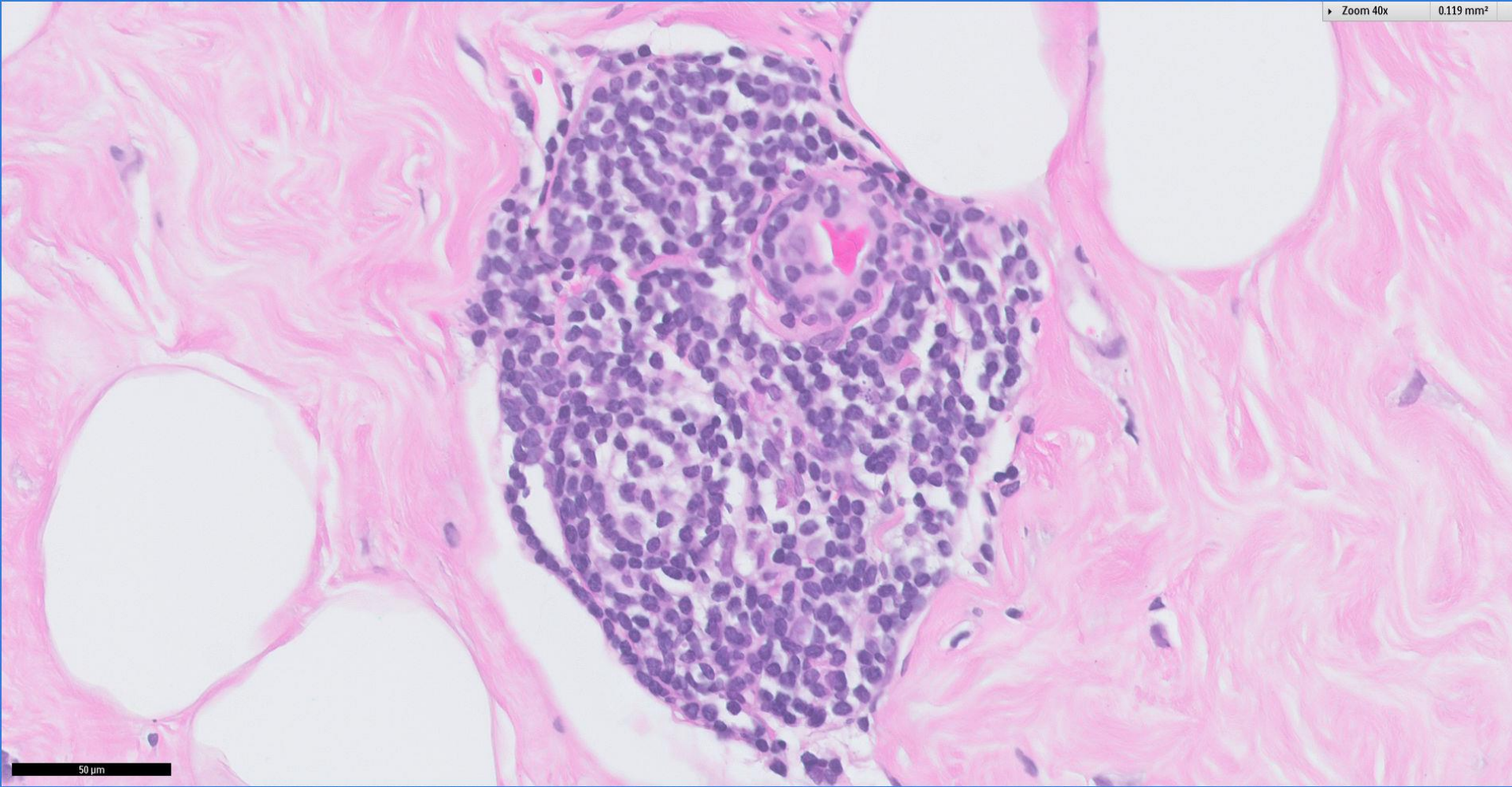


Zoom 20x

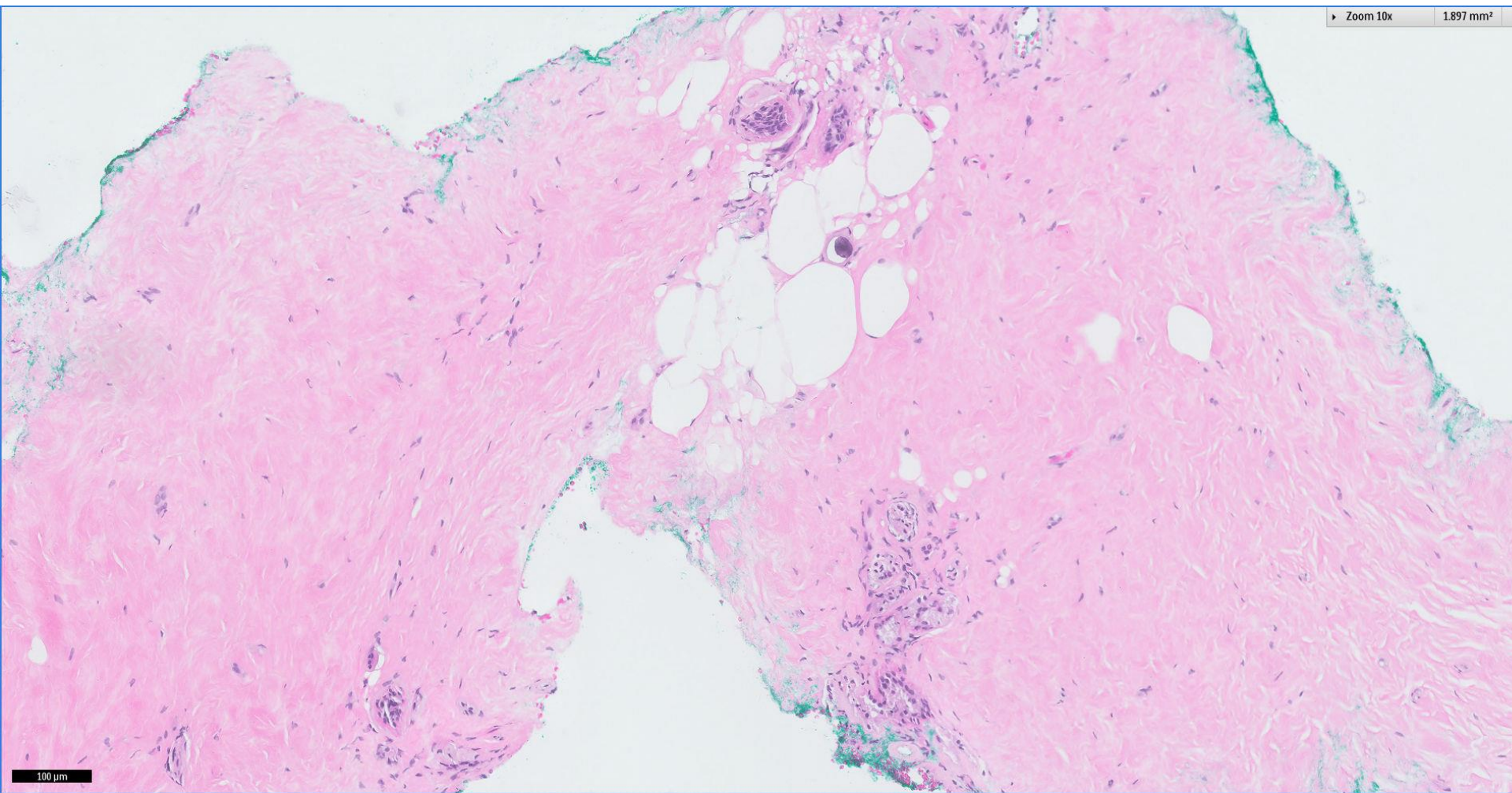
0.474 mm<sup>2</sup>



50  $\mu$ m

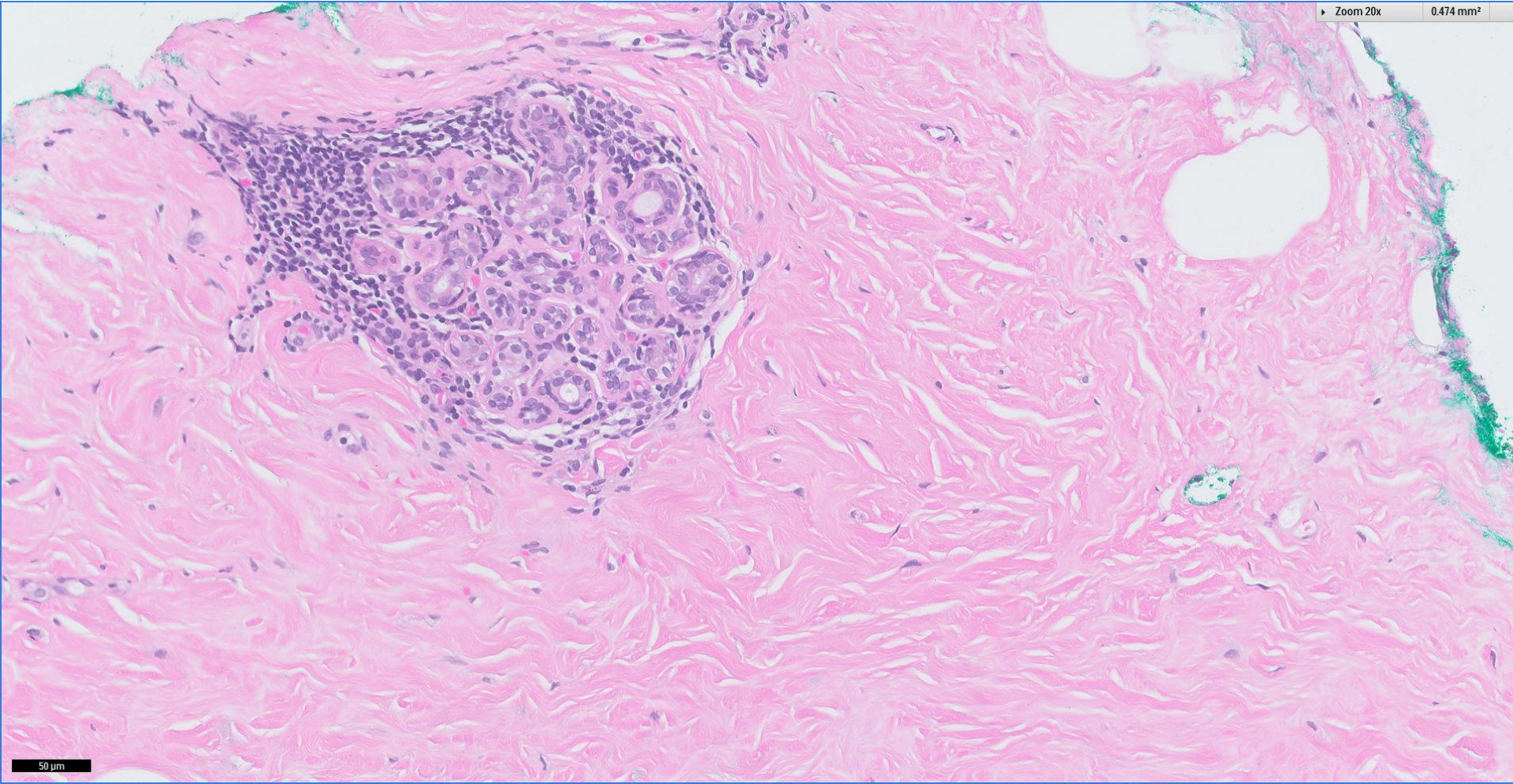




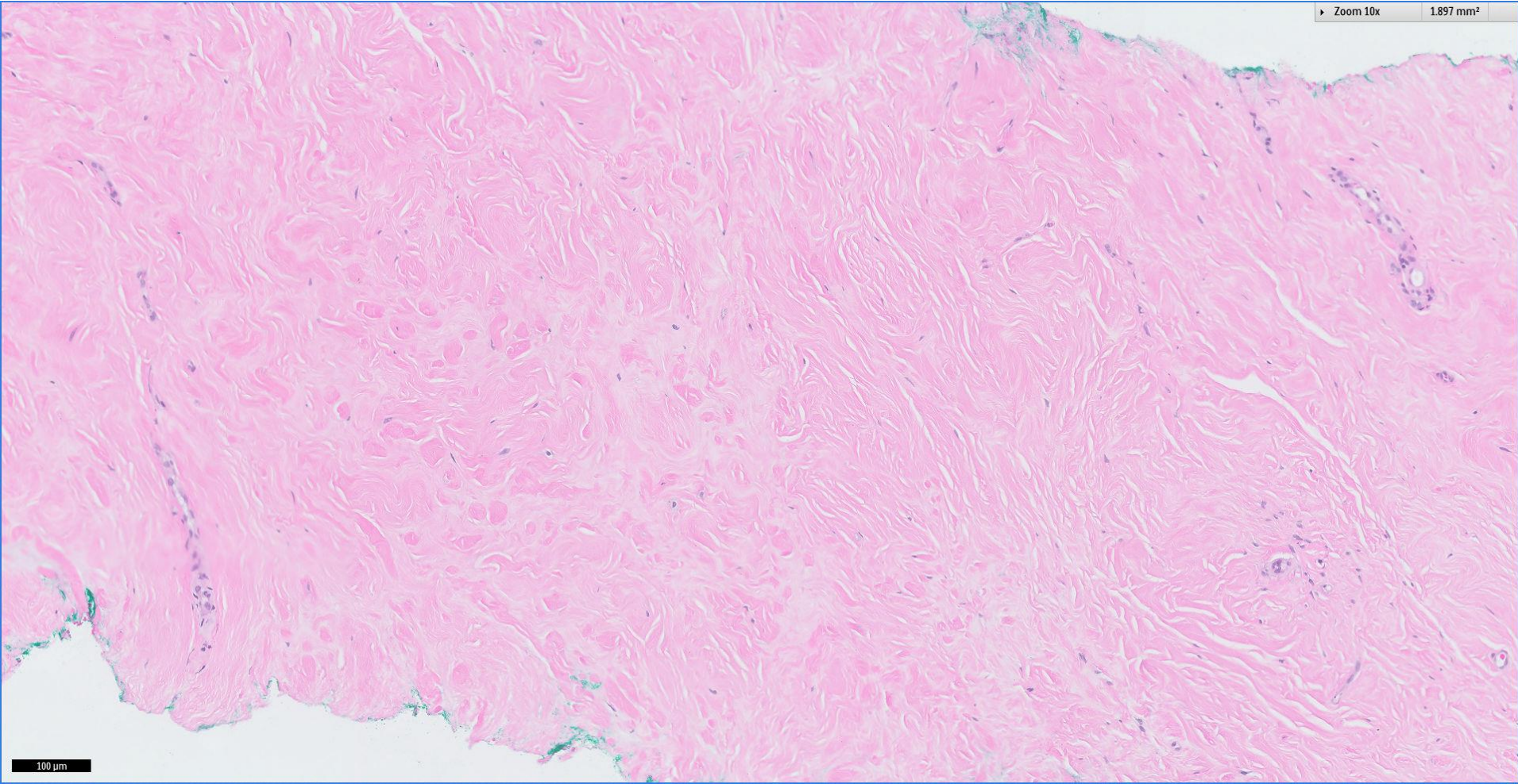


100  $\mu$ m







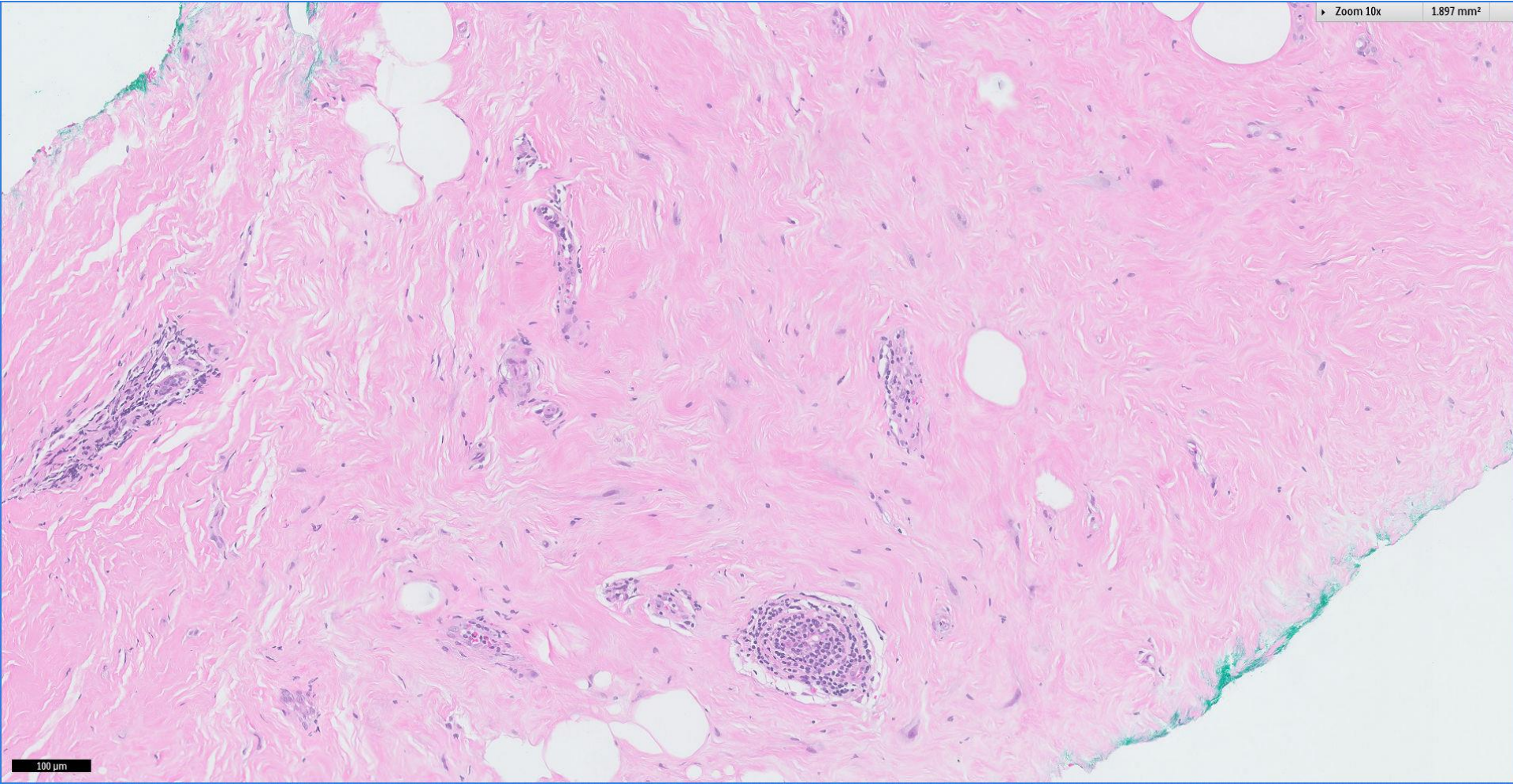


100 μm



Zoom 10x

1.897 mm<sup>2</sup>

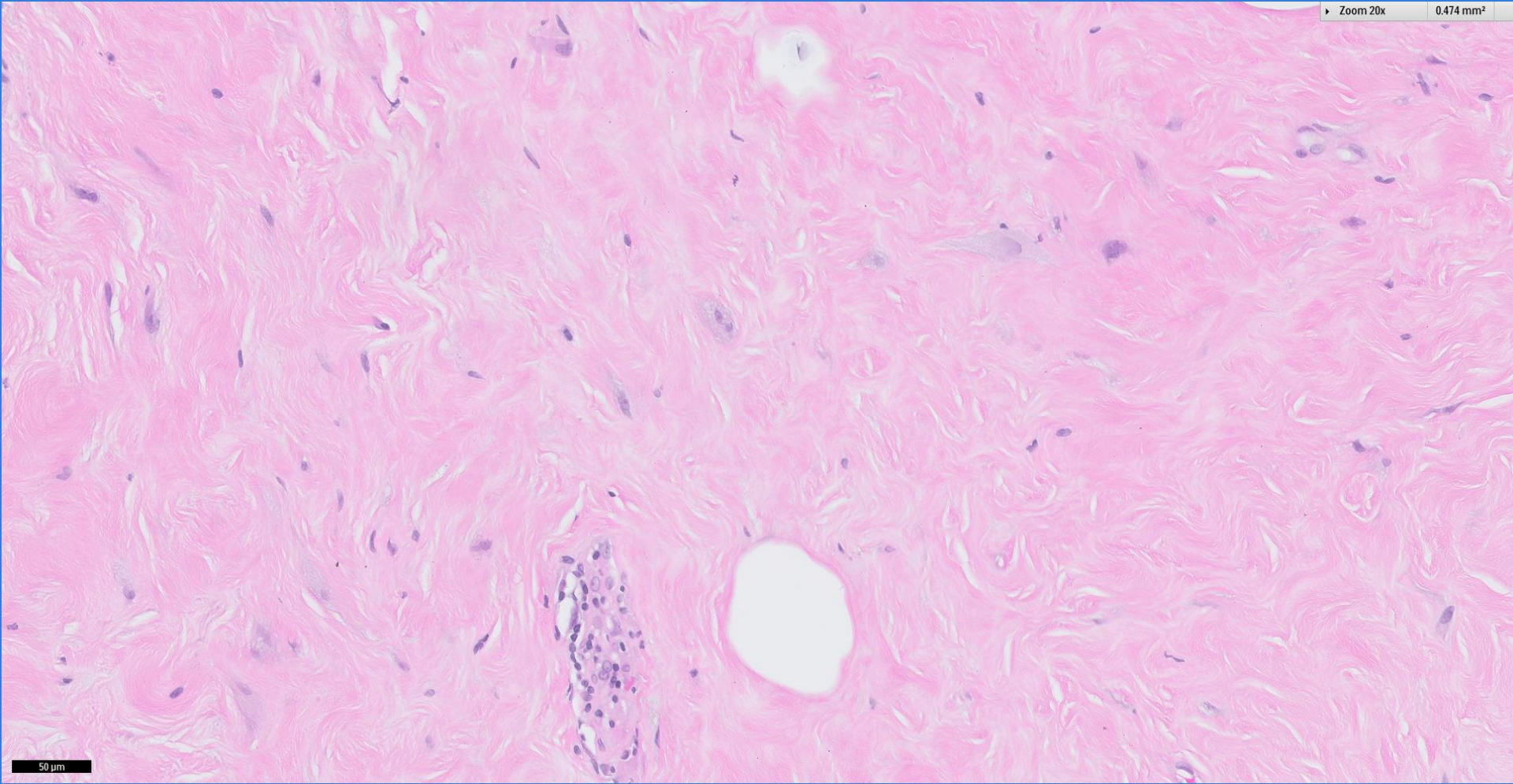


100 μm



Zoom 20x

0.474 mm<sup>2</sup>



50 µm

# Diagnosis:

Right breast, 11-12 o'clock lesion, core biopsy:

***Fibrocollagenous stroma with lymphocytic lobulitis,  
consistent with diabetic mastopathy.***



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# Diabetic mastopathy

- Also known as sclerosing lymphocytic lobulitis.
- Refers to a constellation of pathological changes in the breast possibly resulting from abnormalities in glycosylation and collagen degradation in patients with diabetes.
- Other synonymous terms are diabetic fibrous breast disease, fibrous mastopathy, lymphocytic mastitis and fibrosis, and lymphocytic lobulitis.
- Originally described in patients with insulin-dependent type 1 diabetes mellitus, particularly in patients with microvascular complications.
- Similar histological alterations have been documented in other conditions such as Hashimoto's thyroiditis, hypothyroidism, and autoimmune diseases such as systemic lupus erythematosus and Sjogren's disease.
- Isolated cases of sclerosing lymphocytic lobulitis without diabetes or autoimmune disease have rarely been reported.



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# Diabetic mastopathy

- **Clinical and Epidemiological Features ~**
  - Diabetic mastopathy most often occurs in young premenopausal women, with rare cases reported in men.
  - It can be seen in both type 1 and type 2 diabetics, although it is more frequently associated with type 1 insulin-dependent cases.
  - Patients may present clinically with a painless breast lump that is often single and unilateral. Multiple and bilateral lesions may occur.



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The logo for the International Academy of Pathology, Singapore Division, featuring the letters 'IAP' in a bold, blue, sans-serif font.

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# Diabetic mastopathy

- **Imaging Features ~**

- Imaging shows dense parenchyma with indistinct borders that may be diffuse or focal.
- It especially mimics malignancy on ultrasound examination because of its ill-defined hypoechoic mass-like appearance with posterior acoustic shadowing.
- Biopsy is frequently required to exclude malignancy.



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# Diabetic mastopathy

## Pathology ~

- Gross appearance is of firm-to-hard fibrous tissue with a greyish-white cut surface and ill-defined borders. A distinct nodule is not seen.
- **Microscopy ~**
  - Marked fibrosis and collagenous stroma that can appear keloidal.
  - Interspersed acellular pale collagen.
  - Lymphocytic lobulitis with lymphocytes within the lobules, around ducts and ductules, as well as around vessels and nerves.



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# Diabetic mastopathy

## Pathology, microscopy ~

- Immunohistochemistry reveals predominantly mature B-lymphocytes with a small population of T cells and, rarely plasma cells.
- Germinal centres are not typically present.
- Involved lobules may be atrophic or unremarkable.



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# Diabetic mastopathy

## Pathology, microscopy ~

- Plump myofibroblasts, referred to as **epithelioid myofibroblasts** are seen, initially thought to be specific for diabetes.
- They have abundant cytoplasm and oval vesicular nuclei resembling histiocytes.
- In contrast to histiocytes, which are typically found in small groups, epithelioid myofibroblasts tend to be individual cells isolated from one another by dense collagen.
- Later, these epithelioid myofibroblasts were reported in nondiabetic patients and are noted to be absent in a quarter of cases with diabetes.
- Need to be distinguished from multinucleated stromal giant cells that have multiple hyperchromatic nuclei and scant cytoplasm, which are incidentally found in benign breast tissue.



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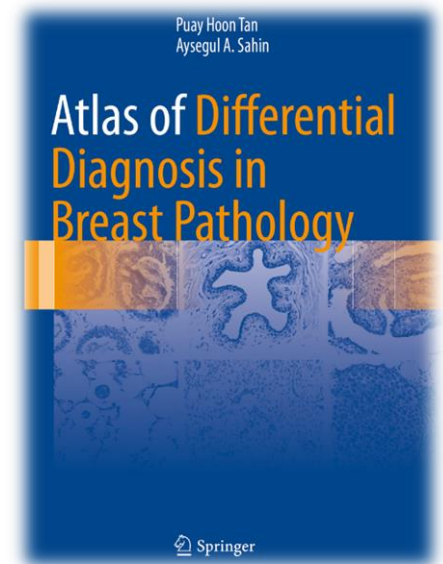
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# Diabetic mastopathy

## Differential diagnosis ~

- Fibrous scar
- Fibromatosis.
- Involved lobules may be atrophic or unremarkable.
- Amyloid
- IgG4 related sclerosing mastitis.
- Lymphoma



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