

When Cancer's Not the Answer: A Radiologic Review of Infectious and Inflammatory Breast Pathologies



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Learning Objectives

1. To review imaging presentations of commonly encountered breast infections in both healthy and immunocompromised women. Cases will include: subareolar abscess, infected sebaceous cyst, mastitis, post-biopsy infection, and parasitic infection.
2. To review imaging presentations of inflammatory breast conditions such as Granulomatous Mastitis and Diabetic Mastopathy.
3. To provide a multimodality pictorial review of pathologies of the infected or inflamed breast, while highlighting optimal imaging modalities.

Discussion

Breast involvement by inflammatory or infectious diseases are commonly encountered by radiologists and may present a diagnostic challenge. Many of these breast conditions can clinically resemble a malignancy, such as Inflammatory Breast Cancer, and may require biopsy.

Granulomatous mastitis is a very rare inflammatory disease of unknown origin that can mimic carcinoma (1). Mammographic features range from normal findings in patients with dense breasts to masses with benign or malignant features. The sonographic appearance of multiple clustered, hypoechoic tubular lesions is sometimes associated with a large, hypoechoic mass and has been considered suggestive of the disease (2).

Diabetic mastopathy manifests clinically as a large, painless, firm breast mass that is usually indistinguishable from breast cancer (3). There is frequently multicentric or bilateral involvement, often occurring in late stages of the disease. The most common mammographic findings are asymmetries or masses with benign or malignant features. Such lesions are often masked by dense glandular tissue, resulting in a challenging mammographic evaluation. Sonographic evaluation demonstrates irregular hypoechoic masses with marked posterior acoustic shadowing (4).

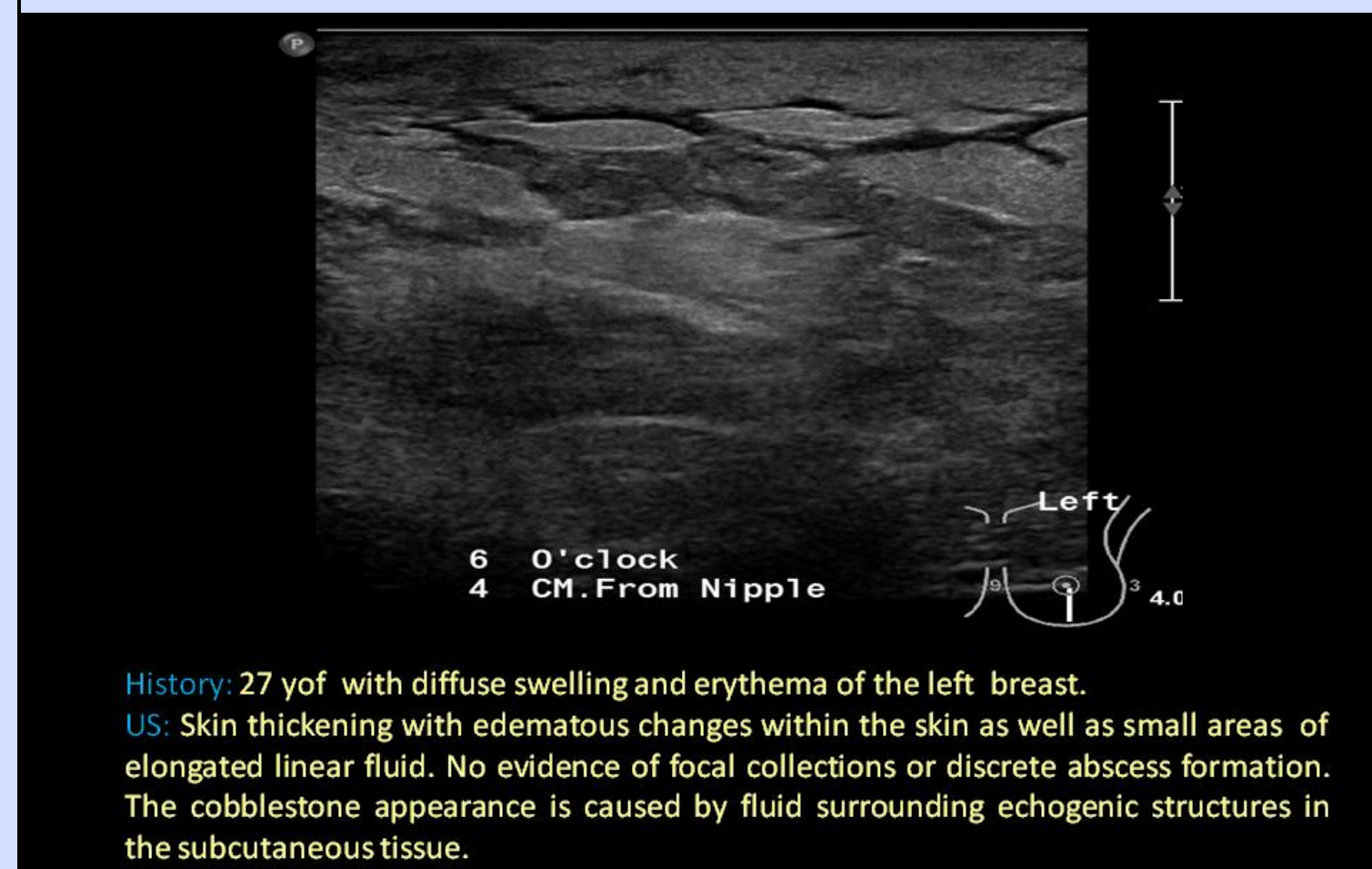
Breast abscesses are often complications of infectious mastitis and generally occur in young women (5). Traditional treatment with surgical incision and drainage is no longer recommended as a first-line approach, as the role of the radiologist has increased to include the need to identify and characterize these infectious collections as well as perform percutaneous drainage (6). In the first 12 weeks after birth, breast abscesses are referred to as puerperal or lactational abscesses and are caused by bacteria that enter via a small skin laceration. Breast abscesses that occur outside of the breast-feeding period are termed nonpuerperal and are categorized according to location, either periareolar or peripheral. Periareolar nonpuerperal abscesses are the most common form of abscesses that develop outside of the breast-feeding period. Mastitis is a complication most often encountered in primiparous women and can develop in breast-feeding women (6).

Knowledge of all these entities is essential in diagnosis and clinical management, and ultimately helps differentiate malignant from benign breast lesions.

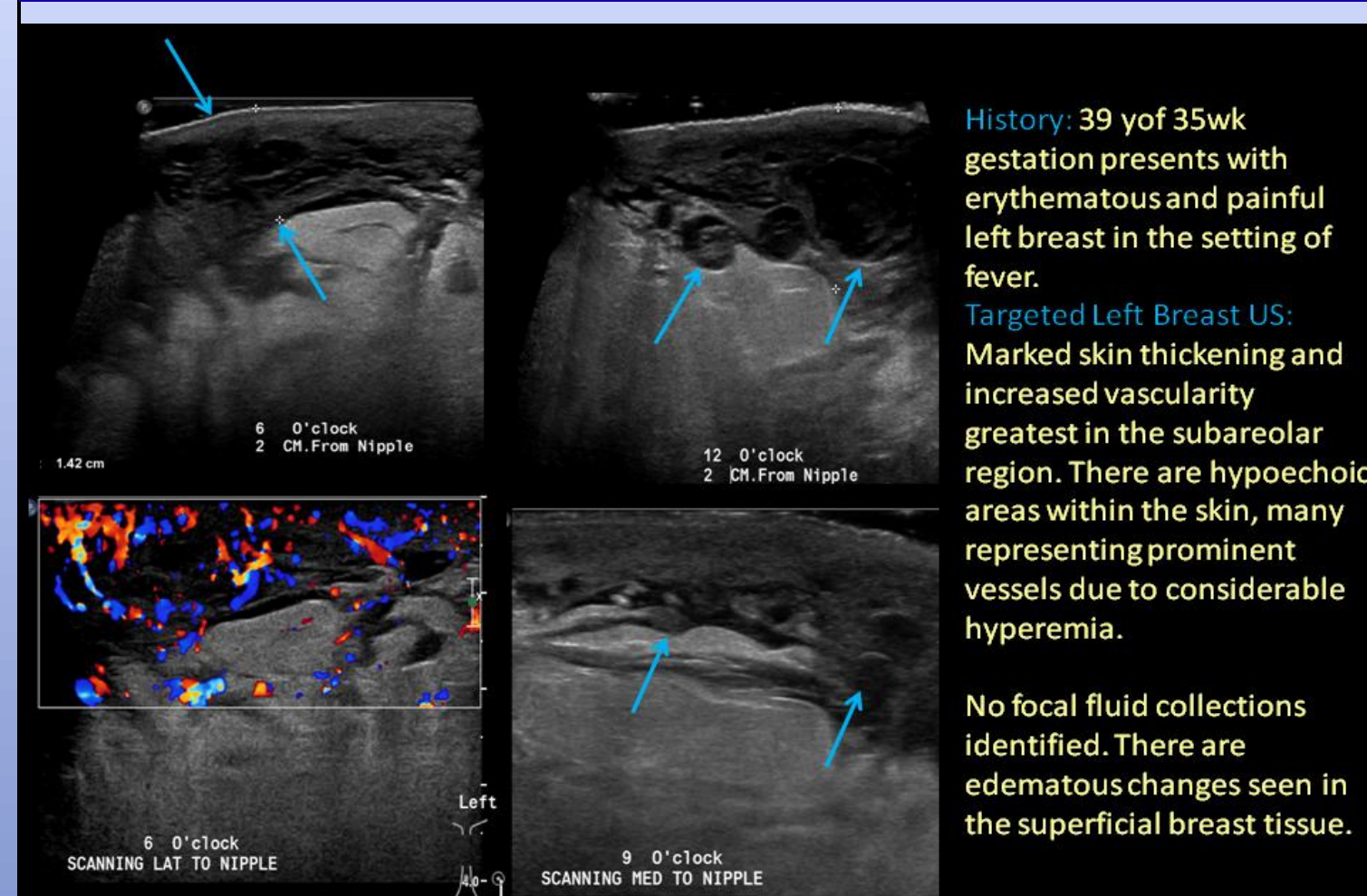
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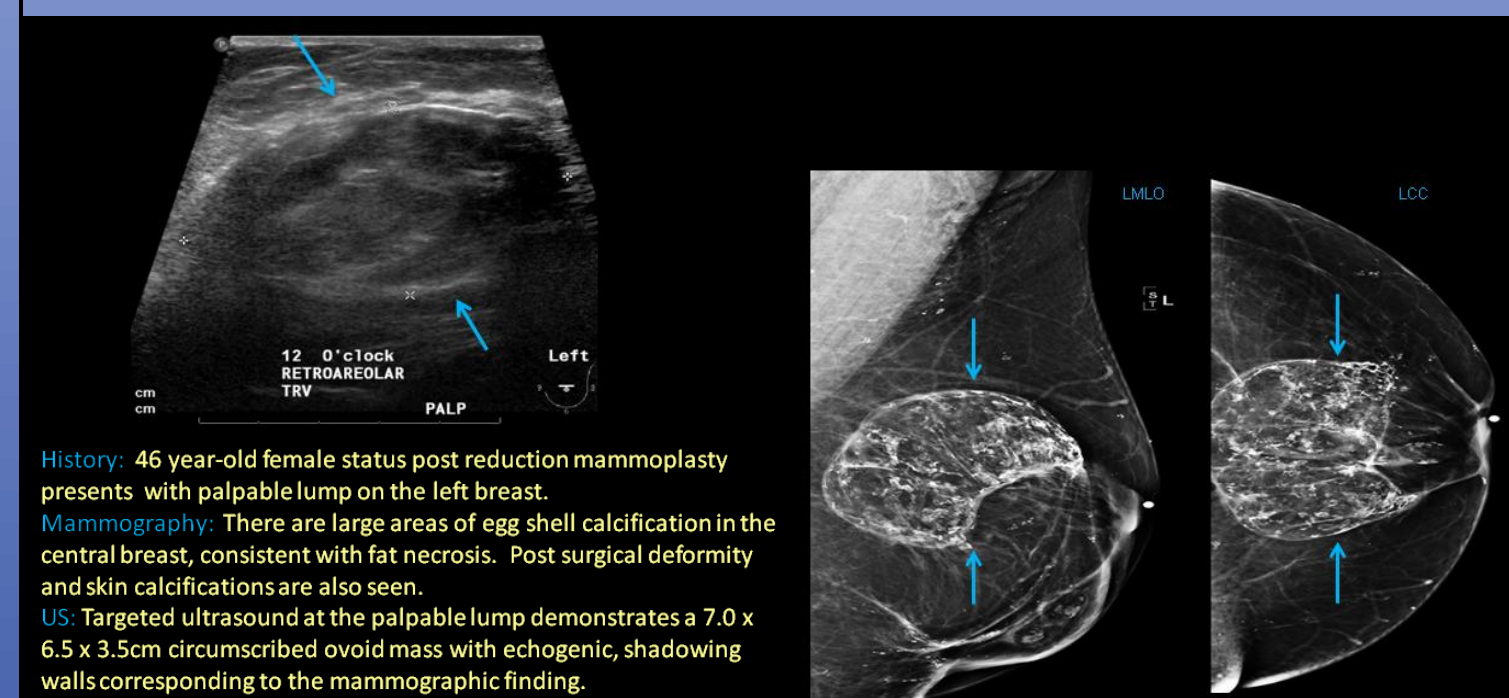
Edematous changes



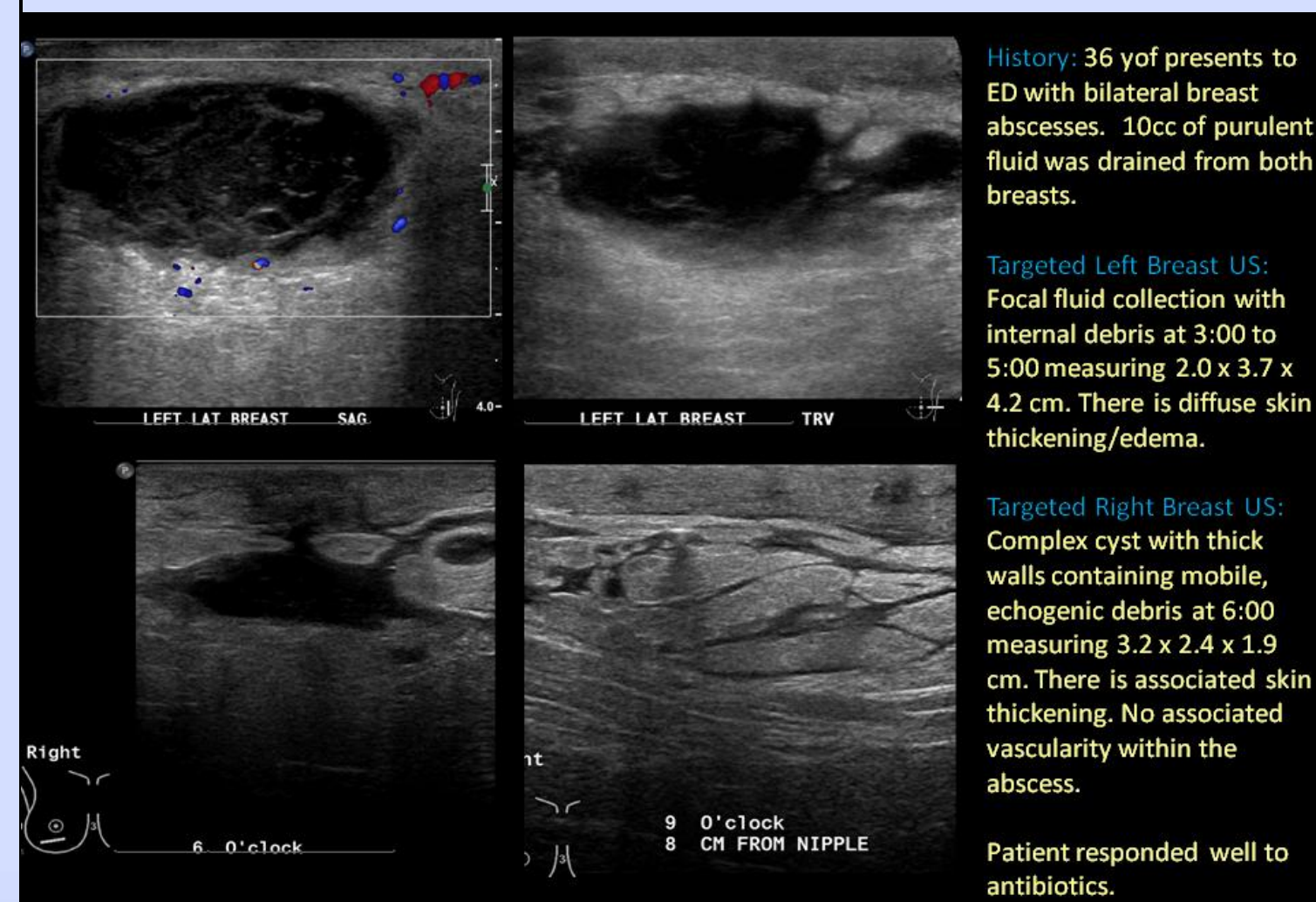
Cellulitis



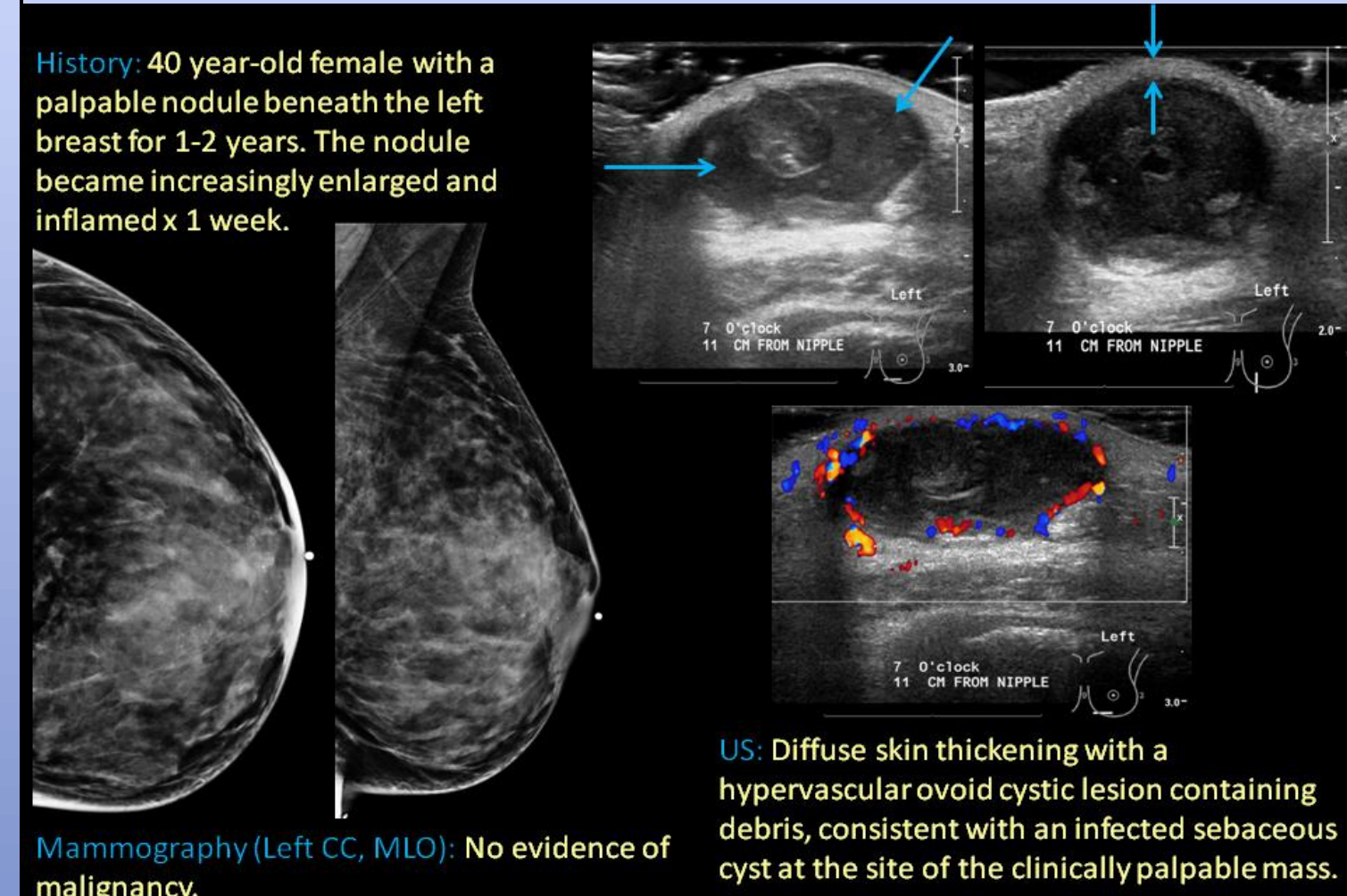
Fat Necrosis



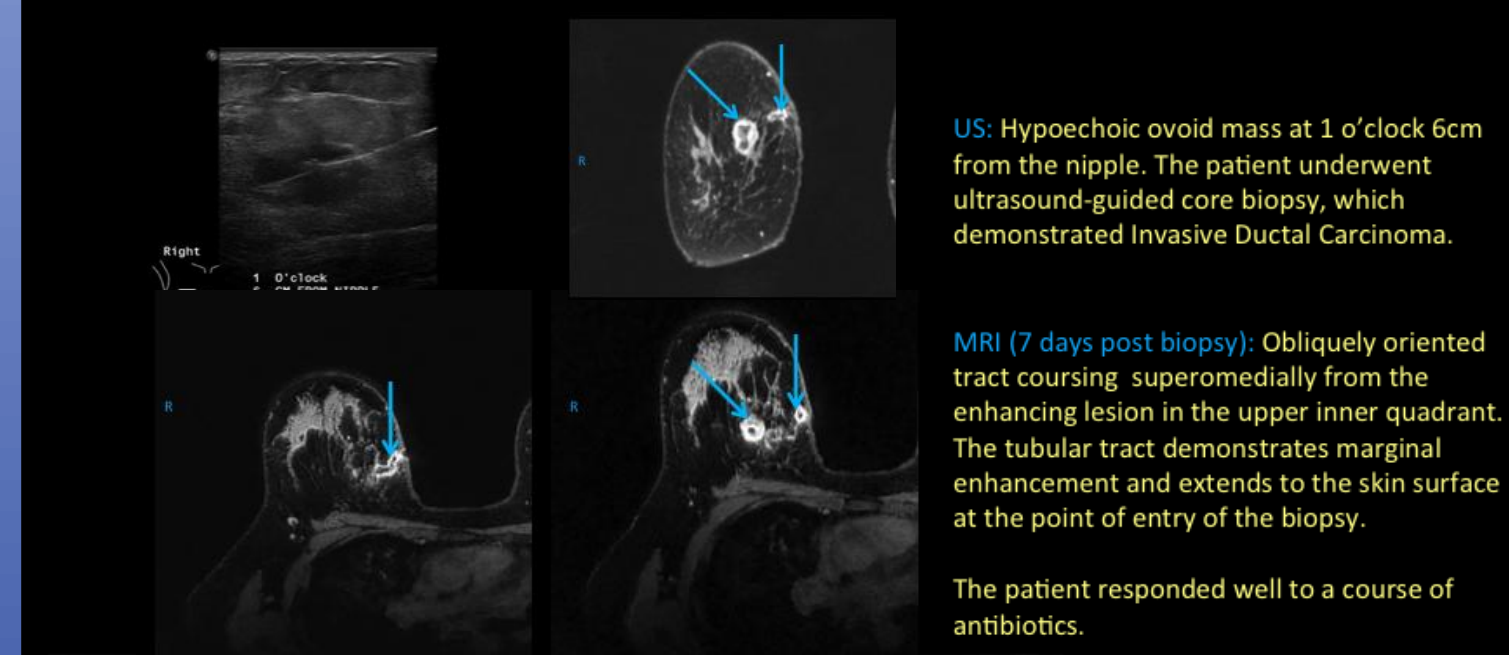
Bilateral Breast Abscesses



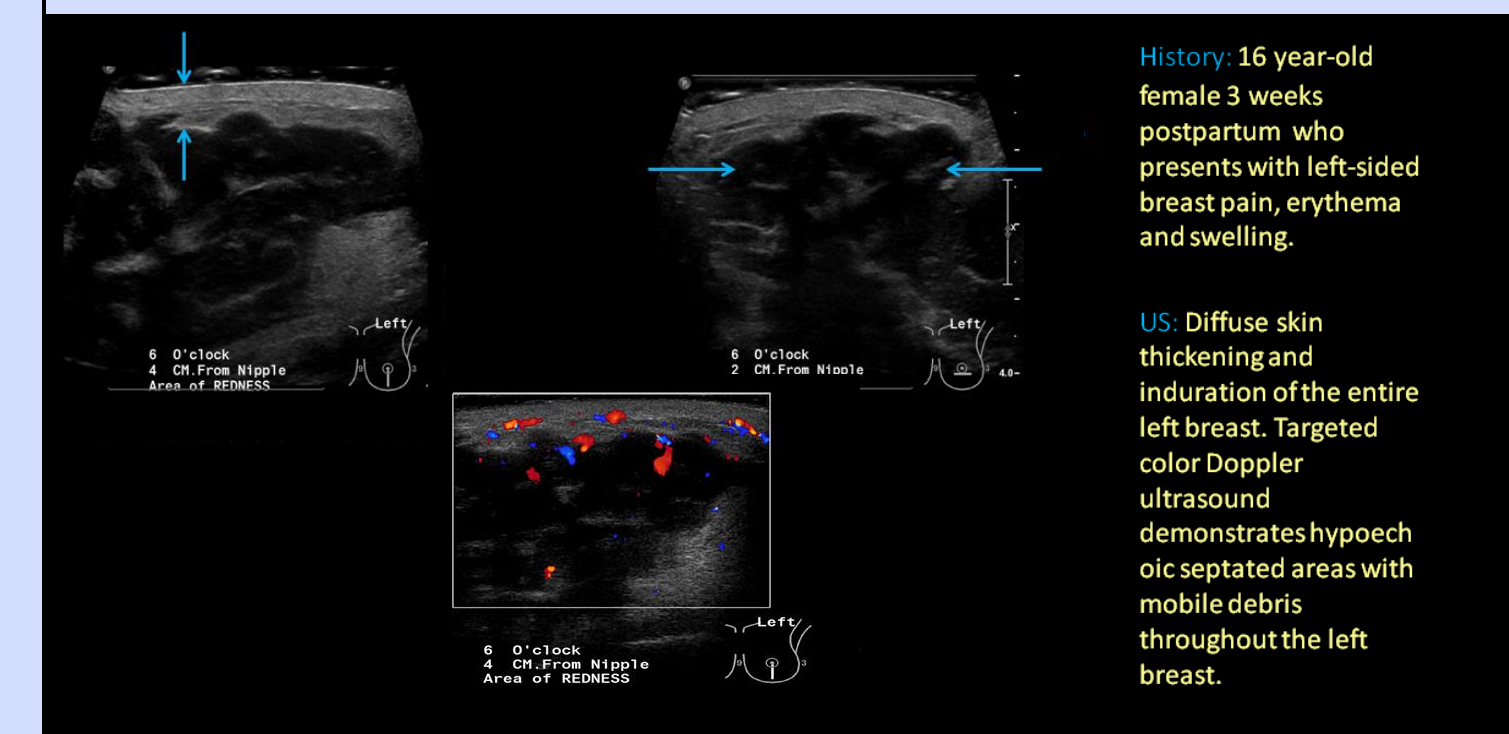
Infected Sebaceous Cyst



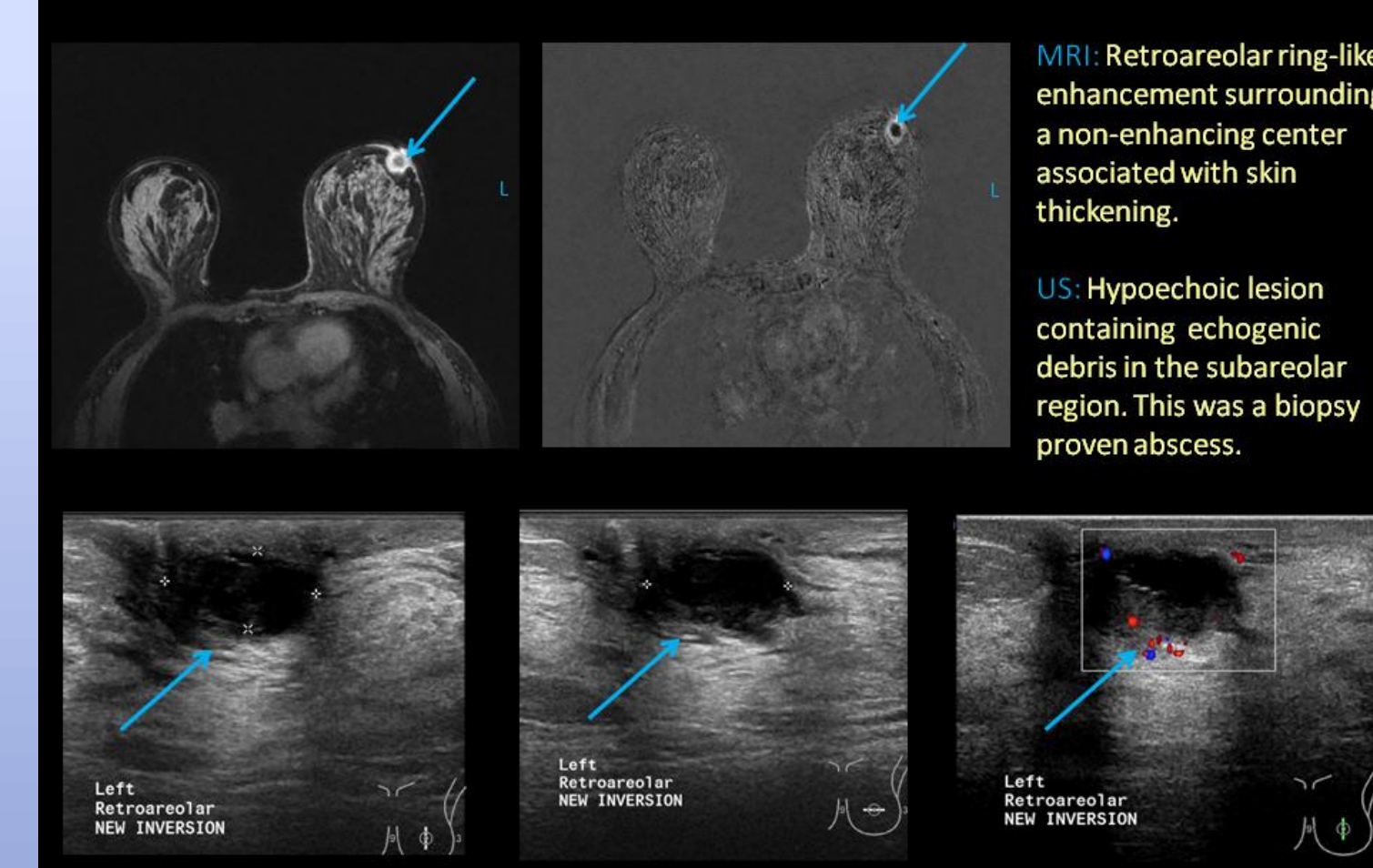
Post-Biopsy Infection



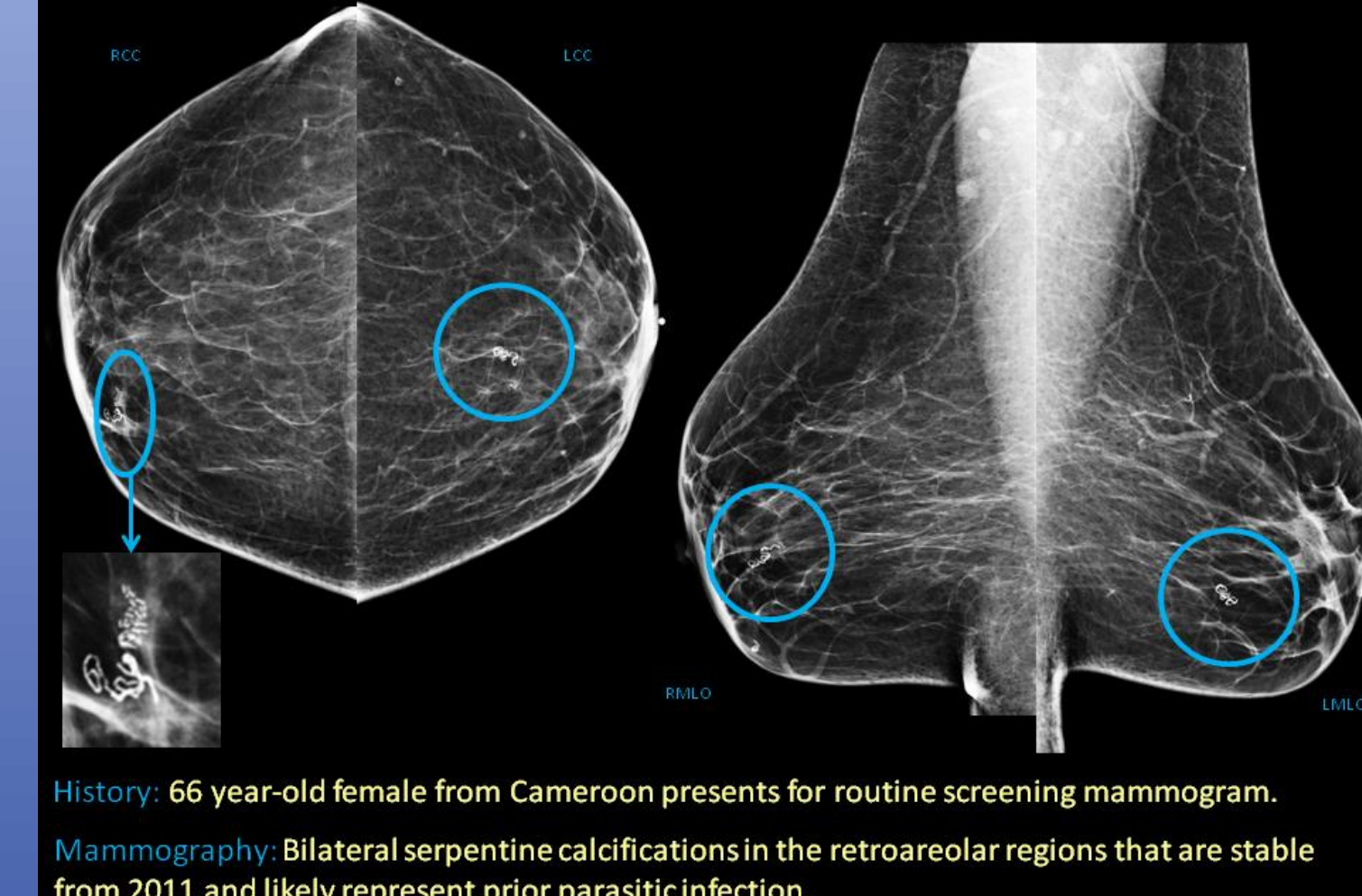
Postpartum Mastitis



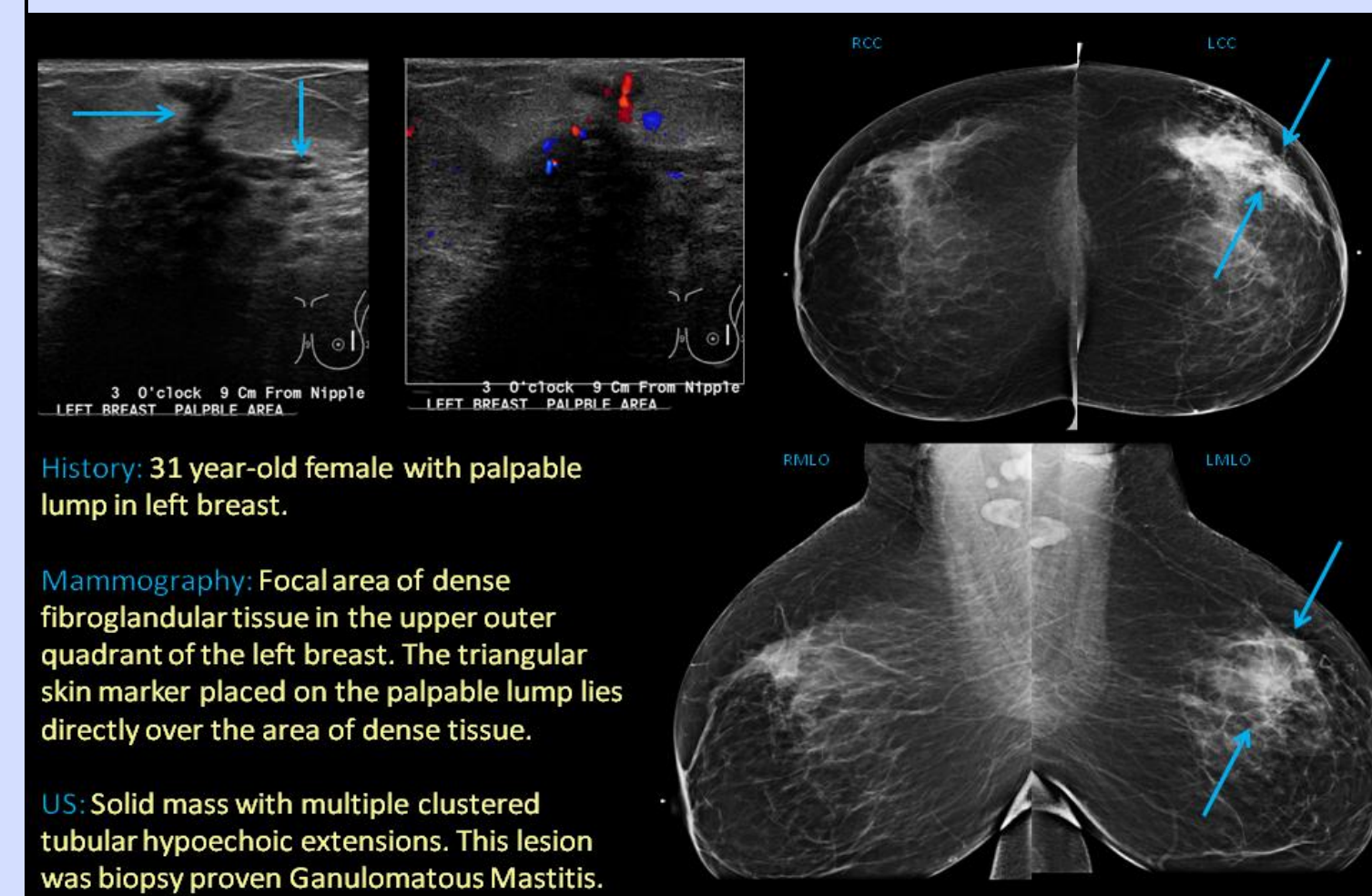
Subareolar Abscess



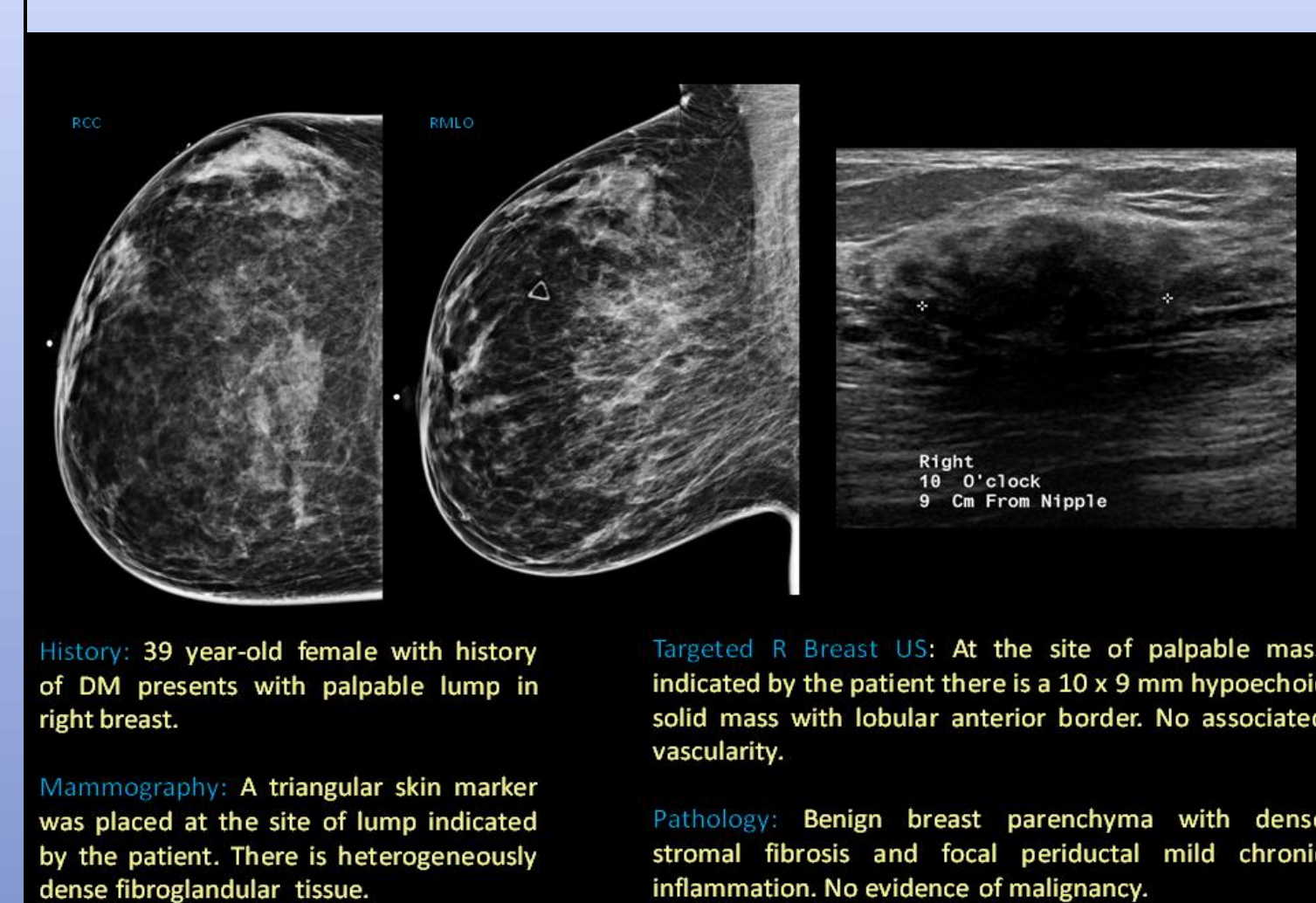
Filariasis



Granulomatous Mastitis



Diabetic Mastopathy



Differential Diagnosis

