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Case 1 DCIS

Patient Age: 45 years

Clinical Findings: No clinical findings. Strong family history of breast cancer.

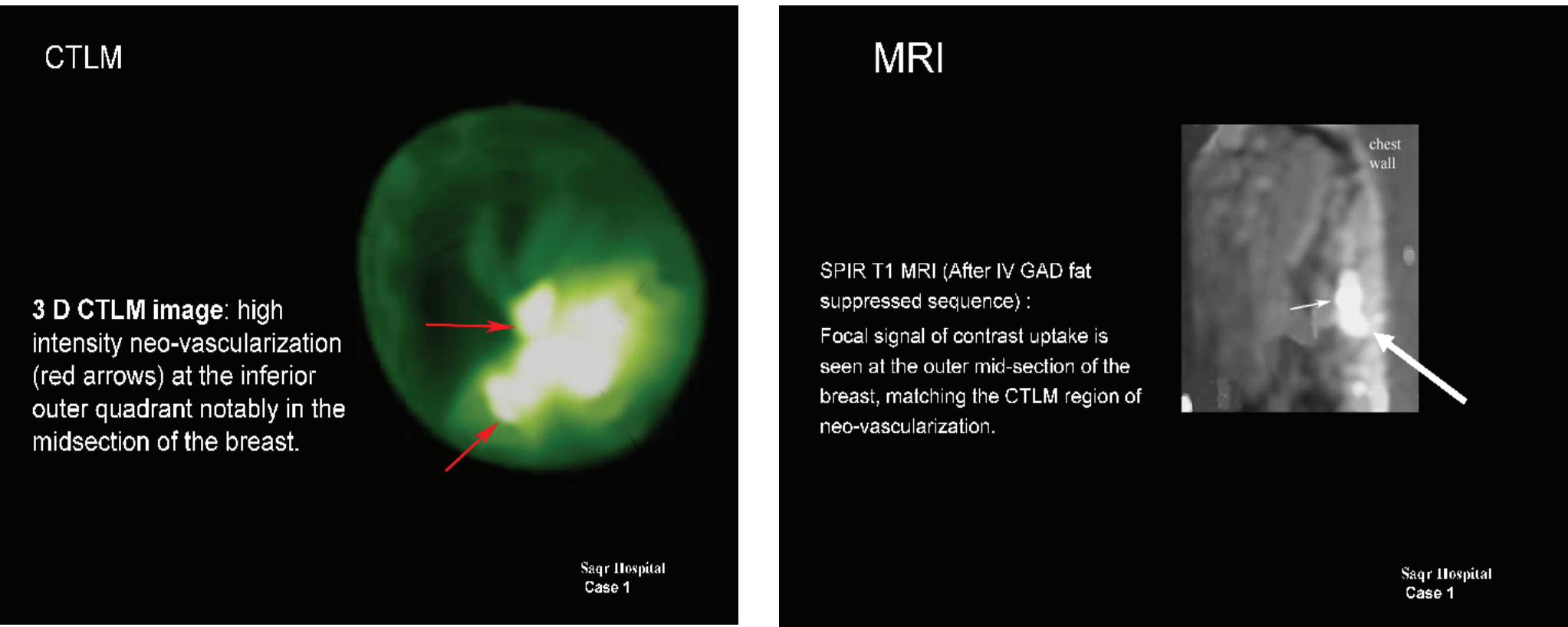
Mammography: Performed at the Mayo Clinic a few months previously, reported as normal

Ultrasound: Ultrasound showed only minor fibrocystic changes

MRI: Focal signal of contrast uptake is seen at the outer mid-section of the breast, matching the CTLM region of neo-vascularization.

CTLM: High-intensity neo-vascularization is seen at the inferior outer quadrant, notably in the midsection of the breast.

Pathology: Bundles of fibro-cystic breast tissue with a 4 mm focus of DCIS (ductal carcinoma in situ) stage 0.



IDSi Comment: *Frequently, particularly in ACR category heterogeneous and extremely dense breasts, mammography may be completely negative and CTLM clearly positive.*

Case 2 Invasive Ductal Carcinoma

Patient Age: 33 years

Clinical Findings: lump, felt for the past month, painless, immobile, minimally tender by palpation

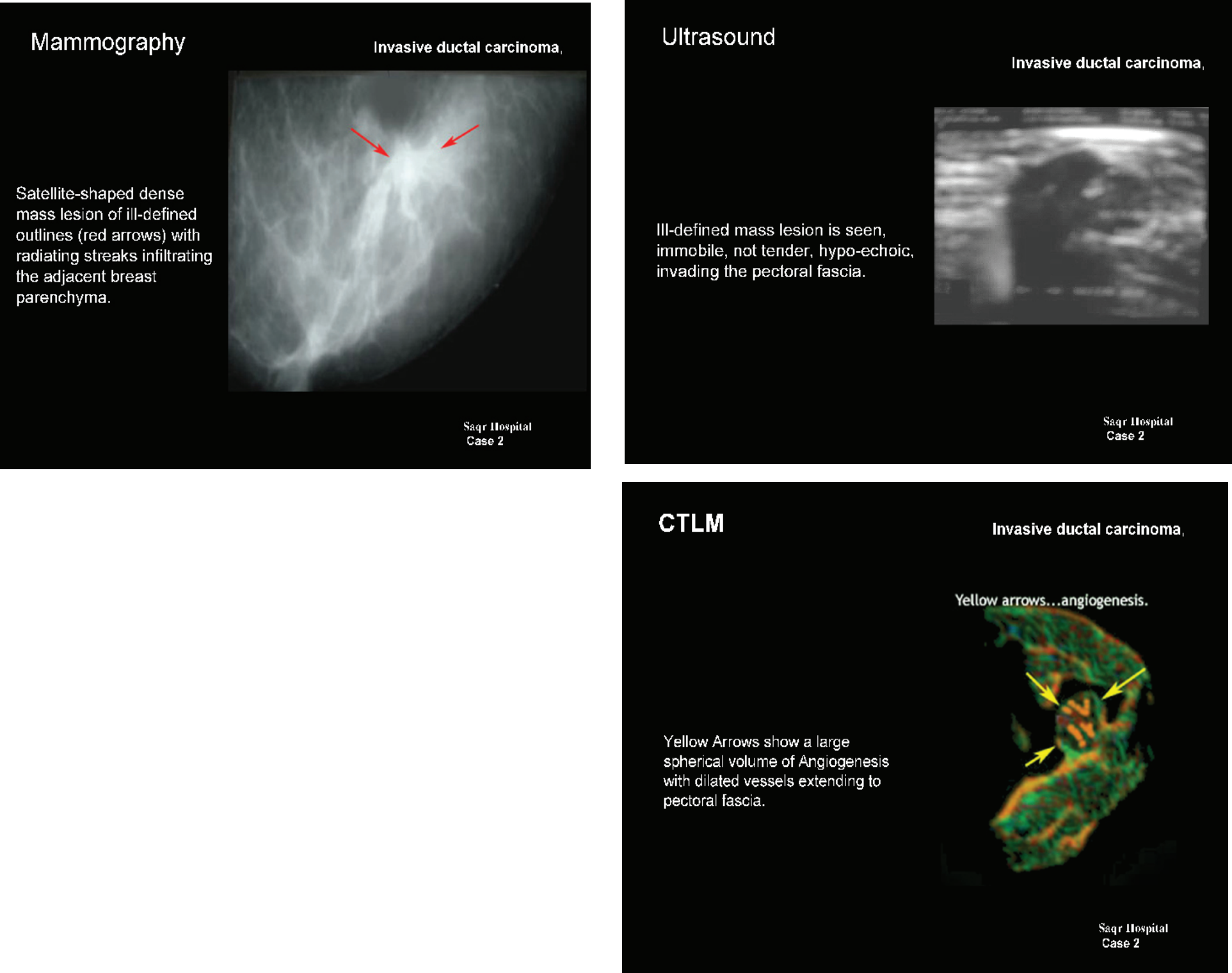
Mammography: Satellite-shaped dense mass lesion of ill-defined outlines (red arrows) with radiating streaks infiltrating the adjacent breast parenchyma.

Ultrasound: Ill-defined mass lesion is seen, hypoechoic, invading the pectoral fascia.

CTLM: CTLM shows a large spherical volume of angiogenesis with dilated vessels extending to pectoral fascia.

MRI: 3D Subtracted Post IV GAD. SPIR T1 sequence, showed high intensity uptake along the previously mentioned mass and its extension

Pathology: Invasive ductal carcinoma, with an approval value of CTLM to show the pattern of late invasion of the mentioned mass to the pectoral fascia similar to that shown by MRI.



IDSi Comment: *The CTLM software allows the user to reconstruct the image in green and white, black and white, or red-green-blue. Users normally prefer green and white but occasionally, as in this case, the use of a different color combination can accentuate the angiogenesis.*

Case 3 Ductal Carcinoma, grade II

Patient Age: 35 years

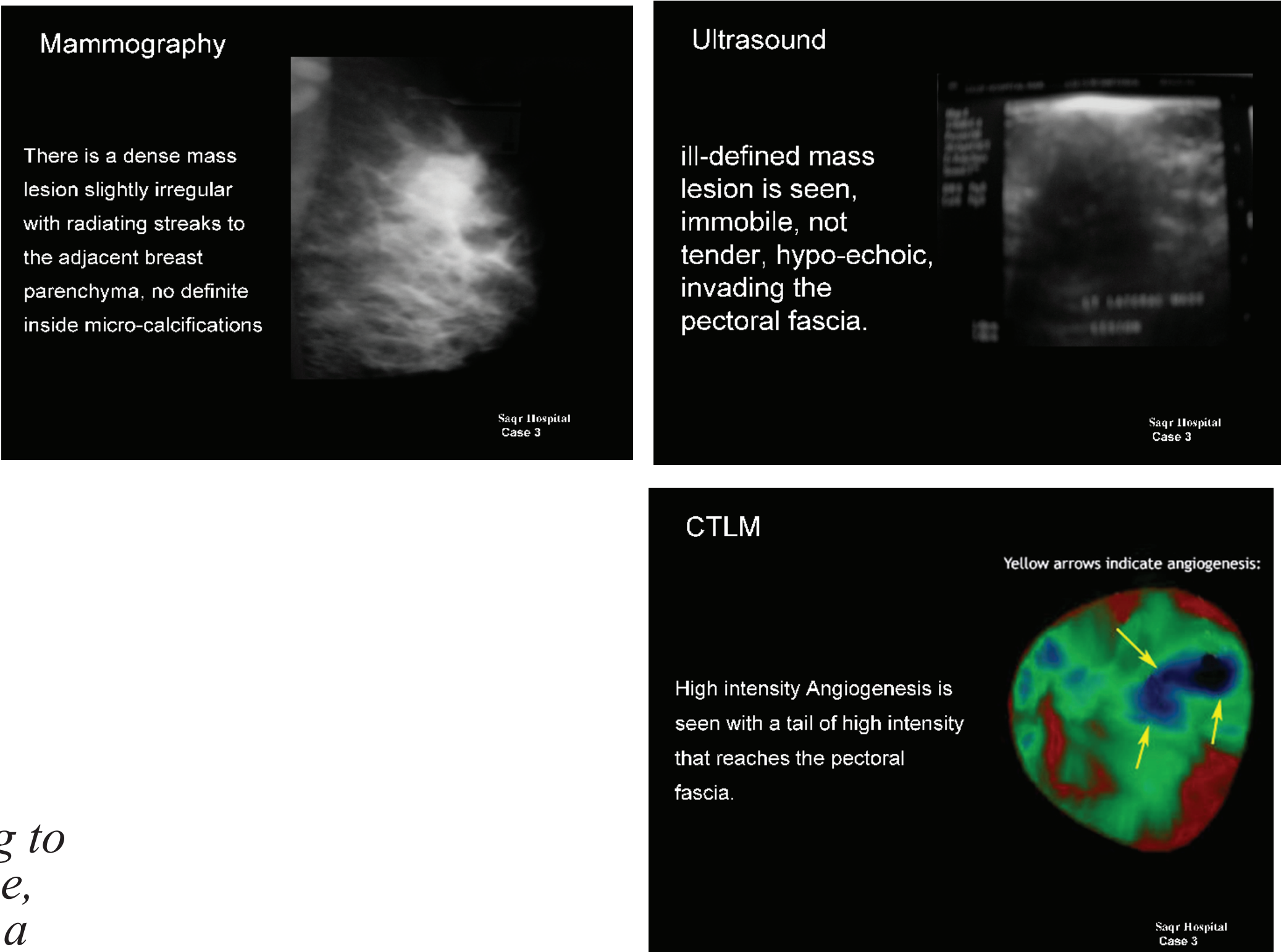
Clinical Findings: Breast lump for the past month, not painful, rather immobile, with no nipple discharge or nipple retraction

Mammography: There is a dense mass lesion slightly irregular with radiating streaks to the adjacent breast parenchyma, no definite inside micro-calcifications

Ultrasound: An ill-defined mass lesion is seen, immobile, not tender, hypoechoic, invading the pectoral fascia.

CTLM: High-intensity angiogenesis is seen with a tail that reaches the pectoral fascia.

Pathology: Ductal carcinoma grade II, with aggressive invasive criteria.



IDSi Comment: *Many centers believe that a palpable lump should be biopsied without recourse to further imaging but on occasion the patient may be unwilling to have a biopsy performed without further evidence that it is necessary. In this case, both ultrasound and CTLM demonstrated the characteristics of malignancy and a biopsy was carried out which confirmed carcinoma.*