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Clinical case

Use of Contrast-Enhanced-Mammography with the Sirius Pintuition Marker: a single case report (1)

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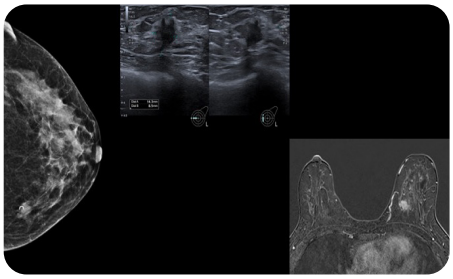
Conclusions

The Sirius Pintuition Marker was correctly positioned in the lesion, it was easily found during surgery and allowed the removal of the lesion with adequate intraoperative margins. The Sirius Pintuition Marker did not cause any artefact on CEM images.

Case Description

A 47 year old female presented to the gynecologist with a new palpable mass in the left breast.



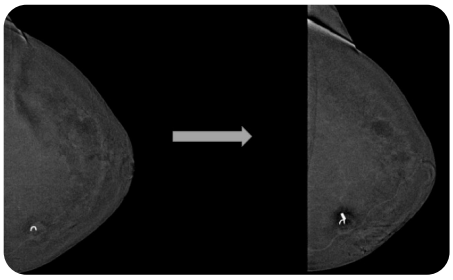
Pre-op images

Diagnosis

Upon the physical examination an indurated ill-defined nodule was palpated in the inner quadrant junction of the left breast. Performed breast imaging techniques (ultrasound, MRI, mammography and CEM) confirmed a nodule with irregular margins showing intense homogeneous mass enhancement after contrast administration. The lesion was categorised as BIRADS 4C. The results of the core biopsy showed an infiltrating ductal carcinoma with the following characteristics:

- Histologic grade: I, well differentiated
- Lymphovascular invasion: absence.
- Intraductal carcinoma: presence 10%
- Pattern: solid-cribriform
- Necrosis: No
- Microcalcifications: No
- Molecular profile
    - Hormone receptors: positive (estrogen 50%, progesterone 100%)
    - Cell proliferation index: Ki67 31%
    - Her2: negative

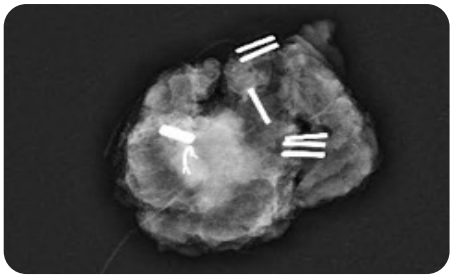
Breast Cancer cT1cN0 Ductal infiltrating G1 Luminal B (phenotype)



CEM images pre and post-deployment of the Pintuition Marker

Treatment and outcomes:

A Sirius Pintuition Marker was placed in the center of the lesion by US guidance and its position was confirmed by CEM. The Pintuition Marker did not cause any artifact and did not prevent the correct reading of the contrast mammography.



Post-op image

CEM acquisition imaging protocol:

Contrast agent concentration of 350 mg I/mL or 300 mg I/ml, with a dose of 1.5 ml/kg and a 3 ml/s flow with the breast compressed. The acquisition protocol starts 2 minutes after the contrast injection with a window of 8 minutes to acquire the breast images. Sequences: 1º cranio-caudal (CC) of the affected breast, 2º CC and oblique medio-lateral (OML) of the health breast and 3º OML and lateral of the affected breast. A dual image is obtained: a low energy image to evaluate the density of the breast and the characteristics of the lesions and a high energy one to evaluate both the background and the lesion.

Surgery: lumpectomy + Sentinel Lymph Node Biopsy

The lesion was precisely localized with Sirius Pintuition and successfully removed with adequate intraoperative margins. The SLNB was negative.

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