Scientific Formal (Paper) Presentations

CODE: SSK02-08
SESSION: SSK02
Clinical Experience in Noninvasive Treatment of Focal Breast Cancer with Magnetic Resonance Guided High Intensity Focused Ultrasound (MRgFUS)

Date/Times

- DATE: Wednesday
- TIME: 11:40 - 11:50 AM
- LOCATION: E450A

PARTICIPANTS

- Luisa Di Mare MD - Nothing to disclose.
- Alessandro Napoli MD - Nothing to disclose.
- Federica Pediconi MD - Nothing to disclose.
- Michele Anzidei MD - Nothing to disclose.
- Vincenzo Noce MD - Nothing to disclose.
- Carlo Catalano MD - Nothing to disclose.

SUBSPECIALTY CONTENT

- Breast (Imaging and Interventional)

PURPOSE
To assess safety and feasibility of non-invasive high intensity 3T MR guided focused Ultrasound (MRgFUS) ablation of biopsy-proven invasive ductal breast cancer (IDC) (stage T1 M0 N0) before surgical resection and sentinel lymph node biopsy.

METHOD AND MATERIALS
Our retrospective study included 12 patients with unifocal biopsy-proven IDC, scheduled and consented to lumpectomy and sentinel lymph node biopsy. We use 3T MRI exam (Discovery 750, GE; Gd-BOPTA, Bracco) to confirm presence and treatable location of enhancing lesion (less than 2 cm). Patient underwent day-surgery single session MRgFUS treatment using ExAblate 2100 system (InSightec), under IRB approval. Post-surgery pathology evaluation test the efficacy of the treatment.

RESULTS
No significant complications were observed in all subjects during or immediately after the procedure. In 10 patients, multiparametric MRI no shows enhancement at breast treatment area. Post-surgery histological evaluation confirmed the absence of residual neoplastic foci in necrotic tissue area with at least 5 mm margins of normal breast tissue in all 10 patients. In 2 cases treatment failed due to transducer malfunction, and pathologist observed 15% of residual tumor. Results demonstrate excellent agreement between pathology and post-treatment MRI.

CONCLUSION
MRgFUS is a promise treatment to determines focal and noninvasive excision of unifocal breast cancer, according to histopathology findings.

CLINICAL RELEVANCE/APPLICATION
MRgFUS is an innovative incisionless technique to obtained reliable ablation of invasive breast cancer and successful clinical outcome.