

*Embargoed until Wednesday, Dec. 4, 2013, at 12:01 a.m. ET*

### 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.