Prospective Trial of Magnetic Seed Localization of Clipped Nodes after Neoadjuvant Chemotherapy in Node Positive Breast Cancer

JM Simons1, ME Scoggins2, HM Kuerer1, AA Sahin3, AC Snell4, I Bedrosian5, JS Lee6, KK Hunt6, AS Caudle1

1Department of Breast Surgical Oncology, 2Department of Diagnostic Radiology, 3Department of Pathology

Introduction
- Clinically node positive patients often receive neoadjuvant chemotherapy (NAC)
- NAC can eradicate nodal disease in 40-80% of clinically node positive patients 1-4
- There is considerable interest in minimally invasive techniques to identify patients that achieve a nodal pCR with NAC
- The use of sentinel lymph node dissection (SLND) to assess metastases with a clip placed in the biopsied node who received NAC were eligible
- Used Magseed®, a non-radioactive, magnetic-based seed that can be placed under ultrasound guidance and detected intra-operatively using the Sentimag® probe for node localization
- Magnetic seed was placed on first attempt
- Distance to skin
- Average 1.6 cm
- Range 0.5 - 2.4 cm
- Size of clipped node on last US
- Mean 1.61 cm
- Range 0.5 - 3 cm
- Placement of magnetic seed within clipped lymph node
- Radiograph of clip and magnetic seed within surgical specimen
- Magnetic seed was retrieved at surgery in all cases.
- In one case, the clip and magnetic seed were retrieved in different nodes.
- In all other cases, the clip and magnetic seed were retrieved in the same node

Summary
- Selective removal of clipped nodes can be accomplished safely and effectively with magnetic seed localization using Magseed®
- Magnetic seeds allow for the convenience of seed localization without the regulatory burden associated with radioactive seeds.

References
5Boloue et al. J Clin Oncol. 2015; 33(3): 258-64
8Caudle et al. JAMA-Surg. 2015; 150(2):137-43

Support
This research was supported by a NIH Cancer Center support Grant (CA16672) and MD Anderson High Impact Research Support Program (ASCI)