

Do patients in regional centres face delays in surgery depending on the localization method of non-palpable breast lesions: A Retrospective Cohort study comparing Magnetic Seeds and Hookwires

D. Heath, A. Safari, J. Jennings, S. Hamza

Department of Surgery, Peel Health Campus, 110 Lakes Rd, Mandurah WA

Introduction

- The increasingly early diagnosis of breast disease and the more widespread use of primary systemic therapy leads to an increasing number of surgeries for non-palpable breast lesions (NPL) in clinical practice. Breast-conserving surgery often requires the use of an image-guided preoperative localization procedure, in which a device is placed within the lesion to guide the surgeon during surgery.¹
- These are patients with small, non-palpable tumours detected in the population screening mammogram, cases with significant reduction of the lesion after neoadjuvant chemotherapy. Preoperative hook wire localization (HWL) has been considered the gold standard method since the 1970s, with the benefits of proven efficacy and low cost.^{2,3} Due to the nature of hook wire, great vigilance must be taken not to inadvertently alter its position before surgery, which is why it is placed hours before surgery and entails complex and limited flexibility in surgical programming.
- To overcome these problems, more recently, thanks to technological advances, non-radioactive seed alternatives such as magnetic seeds have emerged. These locating devices can be placed days before surgery, avoiding wire-related problems and complications. They are introduced percutaneously and identified intraoperatively using a detector device.
- This retrospective study aims to compare the patient journey timelines and surgical outcomes between the use of hook wires and Magseeds® for the localisation of non-palpable breast lesions at Peel Health Campus, a regional hospital in Western Australia

Methods

- A retrospective review of 77 female patients who underwent breast surgery after Magseeds® or Hookwire localisation from January 2022 to December 2023.
- Results included primary outcomes (Days from referral to localization) and secondary outcomes (lesion detection, marker retrieval, re-excision, and complications).

Results

- A total of 33/77 (42.86%) of patients received Magseed®, while 44/77 (57.14%) received HWL.
- The average time from the first visit with a general practitioner or referral from breast screening to the first surgical visit was 14.3 days for HWL and 9.7 days for Magseed® localized patients.
- The average time from the first surgical visit to localization was 37.8 days for HWL and 3.7 days for Magseed® localized patients.
- The average time from localization to surgery was 0 days for HWL and 13.5 days for Magseed® localized patients.
- Re-excision rates were 13.63% (6/44 patients) in HWL and 12.12% (4/33 patients) in Magseed® groups, with no complications.

Conclusions

- Magseed® is an alternative method for the localization of non-palpable breast cancers, compared to HWL.
- It has a significantly shorter time from first referral to Surgery and a lower re-excision rate.
- Magseed® offers patients and surgeons the flexibility to schedule surgery at a convenient time with an equal clinical safety profile.

References

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