

A simple method to decrease surgical trauma in wire localization procedures

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ABSTRACT

Minimally invasive breast biopsies of nonpalpable lesions are used for early diagnosis and treatment of breast cancer. This report describes a simple method to decrease surgical trauma in wire localization procedures. After wire localization with mammography or ultrasound, the course of the wire in the breast was marked on the skin to guide the surgeon. As a result, fewer tissue samples were taken and smaller hematomas occurred. This method is particularly useful in deep lesions and in large breasts, leading to shortened surgery time and improved cosmetic results. This technique can be used in any wire-guided procedure.

Key words: • breast cancer • stereotactic breast biopsies • needle localization

Mammography and ultrasound (US) are used as scanning tests for early diagnosis of breast cancer. Biopsy of nonpalpable lesions using stereotactic marking or US guided needle localization has been applied in many centers over the last decade. It is known that such breast biopsy techniques cause less surgical trauma and more acceptable cosmetic results than open surgical procedures (1, 2). However, surgeons may have difficulty with this technique, particularly with deep lesions and with large breasts, because of the length of wire under the skin. When there is difficulty locating a lesion, more surgical specimens are likely to be taken.

To address these problems, we identified the course of the wire in the breast by imaging it with US (Fig. 1). To prevent the breast from folding on itself, the patient was positioned with a pillow under the shoulder on the side of the breast from which biopsy samples were to be taken. This positioning method was described to the surgeon so that the same position could be maintained during the operation. The projection of the wire within the breast tissue was drawn on the skin, using a surgical pencil (Fig. 2). The surgeon was informed about the length of the wire (cm from point of entry), its course, and its vicinity with the lesion.

Our impression was that surgeons using this technique were well oriented to the lesion; incision sites were easily determined; fewer tissue samples were required, particularly in large breasts with high fat content and with deep lesions; and smaller hematomas followed the procedure. This technique led to shortened surgical time and more acceptable cosmetic results. The procedure was inexpensive and not time consuming. The technique can be applied to any wire-guided procedure in any clinical facility.

No formal study of this procedure was performed, but it appeared obvious to us that results were positive. It is recommended that studies be undertaken to compare biopsy procedures using this technique with standard biopsy procedures, measuring outcomes such as incision length, operation time, specimen and hematoma volume, and cosmetic results.

References

1. Fahrback K, Sledge I, Cella C, Linz H, Ross SD. A comparison of the accuracy of two minimally invasive breast biopsy methods: a systematic literature review and meta-analysis. *Arch Gynecol Obstet* 2006; 274:63–73.
2. Hanna WC, Demyttenaere SV, Ferri LE, Fleischer DM. The use of stereotactic excisional biopsy in the management of invasive breast cancer. *World J Surg* 2005; 29:1490–1494.

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Figure 1. Sonographic view of the course of the wire in the breast.



Figure 2. The projection of the wire within the breast tissue was drawn on the skin using a surgical pencil.