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REVIEW ARTICLE

CORE NEEDLE BIOPSY IN BREAST INJURIES. REVIEW ARTICLE

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ABSTRACT

The breast lesion biopsies, in general, tend to be invasive. In this context, the biopsy performed with a core needle guided by an ultrasound or by palpation of the lesion, presents as a good alternative, because of the simplicity of the technique and the convenience for the patients who will not need a surgical environment and will receive only local anesthesia. Objective: The present study aims to analyze and describe an ultrasound-guided thick needle technique. Results: Core needle biopsies are comfortable for patients, simpler to be performed by the physician and with faster results due to the low complexity of the procedure. Conclusion: Core biopsy is an advantageous technique in several aspects. It is cheaper than conventional methods as it is a more comfortable technique for the patient, since the results are faster to be released.

KEYWORDS: BREAST, CORE BIOPSY, CORE NEEDLE

INTRODUCTION

Core needle biopsy (core biopsy) allows the histological study of the lesion. It is simple and relatively comfortable, widely available and on an outpatient basis. It can be guided by ultrasound, mammography or magnetic resonance imaging or by freehand when the lesion is palpable. Also known as core biopsy, tru-cut or core biopsy, it is cheaper than mammotomy and surgery. A spring-loaded device or pistol is used to propel the needle through the lesion. The needle, which is disposable, has an average of 12 cm and 14 gauge G1 (Figures 1 and 2).

PRINCIPLES OF THE METHOD AND LITERATURE REVIEW

Three to five fragments are obtained under local anesthesia with 2% lidocaine and fixed in formalin, which will later be processed and stained with Hematoxylin-Eosin (HE) (Figures 3 and 4).

Compared to other biopsy techniques, core biopsy is less invasive and less expensive than mammotomy and surgery, not requiring hospitalization; providing a faster diagnostic result, and consequently the early start of treatment[2].

Commercially available biopsy devices, also called "guns", contain springs that propel the needle through the lesion. The needle, which is disposable, has two components that fit coaxially, the cannula and the mandrel. The chuck has a small chamfer of 1 to 2 cm, depending on the manufacturer, in which the fragment is retained. The fragments obtained have an average diameter of 2 mm[3].

THE TECHNIQUE

After identifying the lesion on ultrasound, the patient is positioned in lateral or dorsal decubitus, facilitating less needle access. The needle is positioned parallel to the transducer in the longitudinal direction, facilitating visualization in the same cutting plane. It is recommended to wrap the transducer with a condom to protect the transducer, the patient and the professional team, leaving a layer of gel between the transducer and the condom. Antisepsis is performed with 70% alcohol and local anesthesia with 5 to 10 ml of 2% lidocaine. It is not necessary to use complex surgical drapes, but an environment that is clean and comfortable for the patient[4].

An orifice is made in the skin with a number 11 or 15 scalpel blade to facilitate the introduction of the needle. This orifice can be made with a 40x12 pink needle or 40x16 white needle when a scalpel blade is not available.

The needle should be introduced until it is almost touching the lesion, that is, before the nodule, however, without going beyond it. After making sure that the needle is correctly positioned, several shots are performed in

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different regions of the nodule, upper, middle and lower, seeking different regions of the lesion[5].

The number of fragments can vary from 3 to 5, depending on the strength and complexity of the lesion and the examiner's experience. When the biopsy is accurate, a fragment is sufficient for the histopathological diagnosis in paraffin by hematoxylin and eosin staining. However, due to immunohistochemistry, which requires at least 4 slides to study RE, RP, HER2 and Ki-67, it is recommended to remove at least 3 fragments[6].

It is important to check the macroscopic aspect of the fragments obtained. Classic malignant lesions, such as infiltrating ductal carcinoma, usually produce solid, hard fragments that submerge in formalin. In such cases, 3 fragments are sufficient. High-grade mucinous or medullary carcinomas originate soft, gelatinous fragments, sometimes fractionated, requiring the removal of 5 or more fragments. In benign lesions, the fragments are usually of a soft, greasy appearance, floating in formaldehyde[7].

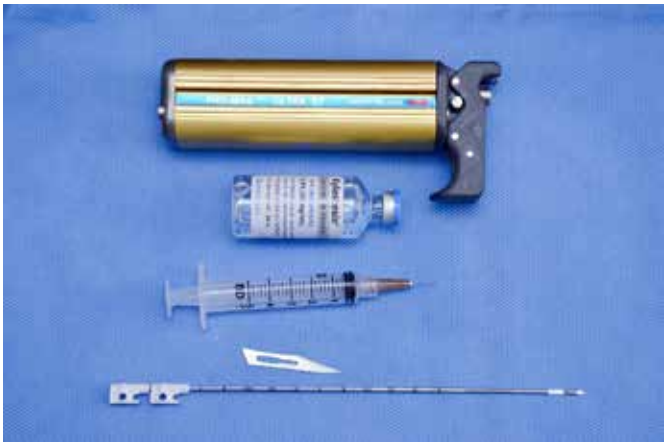

Figure 1. Core needle biopsy. Device or pistol. Disposable needle, 12 cm and 14 G gauge. Blade number 11 for skin incision and local anesthetic.

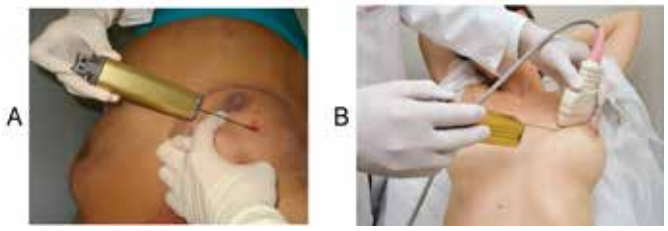

Figure 2. Core needle biopsy. A. Free hand. B. Ultrasound guided. C. Core biopsy ultrasound. Needle positioned before shooting.

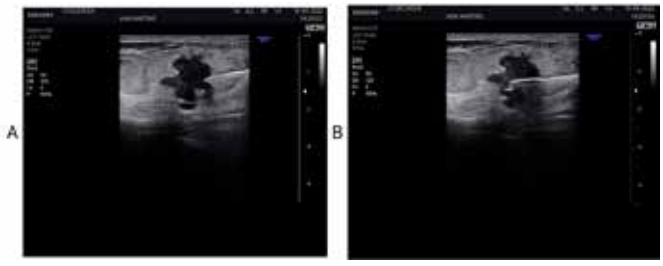

Figure 3. Core biopsy ultrasound. BI-RADS Node 5. A. Needle positioned before firing. B. Needle positioned after shooting.

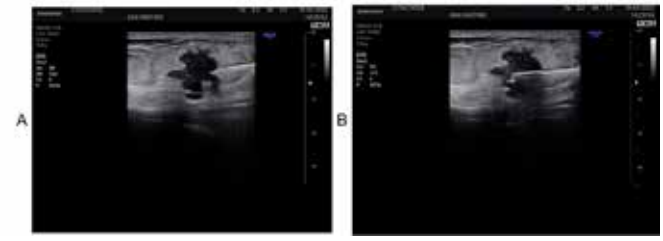

Figure 4. Core biopsy ultrasound. BI-RADS Node 5. A. Needle positioned before firing. B. Needle positioned after shooting.

CONCLUSION

Performed in a less invasive way, with relative comfort, with wide availability and lower cost, core biopsy is a relevant alternative. The use of this method is still rectified due to its faster diagnostic result, allowing an early start of treatment. To perform the technique, the physician must have sufficient technical and practical knowledge to perform the procedure in line with the dynamic follow-up of ultrasound to observe the nodule. Regarding the histopathological examination, 3 to 5 fragments should be removed, providing an appropriate immunohistochemical analysis of markers (RE, RP, HER2 and Ki-67)[8].

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