

Diagnostic value of needle-localization biopsy in the management of non-palpable breast lesions

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Objectives: To determine the diagnostic accuracy of needle localization biopsy in the management of non-palpable breast lesions.

Methodology: This study was conducted over period of two and a half year at surgery unit-II of SMBBMU and Larkana Medical Center. Total 51 patients were included who had BIRADS IV and V lesions on mammogram & ultrasound. All underwent wire/needle localization under ultrasound and latter diagnostic biopsy.

Results: All the 51 patients were females. The positive result in terms of presence of diseased breast tissue was found in 92.15%.

Conclusion: Needle localization biopsy has good diagnostic accuracy. The results can be improved by bringing improvement in the field of interventional radiology. (Rawal Med J 2013;38:59-60).

Key words: Breast, non-palpable lesions, needle-localization.

INTRODUCTION

Since the awareness regarding the breast cancer is increasing, the number of screening mammogram is also multiplying. Since it helps in excluding the suspicious lesions, many more non palpable lesions are also detected.¹ The cytological/histological definition is required to established the correct diagnostic classification of these lesion so that the suitable therapy to be used.^{2,3} The investigations and treatment is needed to be guided radiologically.⁴ Wire/needle localization and excision is presently the standard technique, however, difficult placement of guide wire in a dense breast, wire displacement, inability to reposition and procedure trauma has to be kept in mind. The localization may be done through mammography guide or ultrasound guide. Other method of localization include use of 99m Tc-MIBI scinti-mammography.⁵ The objective of this study was to determine the diagnostic accuracy of needle localization biopsy in the management of non-palpable breast lesions.

METHODOLOGY

This study was conducted at the Surgical Unit-II of Shaheed Mohtarma Benazir Bhutto Medical University (SMBBMU) Hospital Larkana and The Larkana Medical center over the period of two and half year. The mammogram was performed at LINAR and the ultrasound was available at our institution. The study included 51 patients who

presented with suspected lesions on screening mammograms. The suspected areas were also detected with high frequency and high resolution linear ultrasound probe. An informed written consent was taken. Under ultrasound guide, small, fine looked needle/wire was placed within the suspected lesion. Patient was taken to the operation theater where excisional biopsy of the breast tissue which surrounded the needle was performed under general anesthesia. The specimen was sent for histopathological examination.

RESULTS

Total number of the patients was 51. All were female and above 45 years (mean 47.35±10.25). Clinical examination was negative for any palpable abnormality. The symptoms included myalgia (n=10), nipple discharge (n=17) and no symptoms (n=34). Mammogram had revealed micro calcification in 37 and clustered calcification in 14 patients.

BIRADS Grades of the lesion on ultrasound showed BIRADS IV in 35 (68.6%) and BIRADS V in 16 (31.37%) patients. Histopathological results showed benign changes in 15 (29.4%), atypical ductal hyperplasia in 23 (45.09%) and carcinoma in 9 (17.64%) patients. Normal breast tissue was seen in 4 (7.84%) patients. Thus, the positive result in terms of presence of diseased breast tissue was 92.15%.

DISCUSSION

Non palpable breast lesions need a separate way of diagnostic modalities. They need image-guided localization prior to diagnostic biopsy either by wire/needle adhesive plates or radio-nucleotide.⁶ Pre-operative localization of such impalpable lesions has been done by the injection of either a carbon suspension or radioactive titanium seeds adjacent to the lesion. Precise localization is the most important factors in the accurate surgical removal of clinically occult breast lesion.⁷ Wire/needle localization is still a very commonly practiced procedure world wide. It is cheap, reproducible and free from dangerous side effects but still several problems are associated with it.⁸

We included 51 patients in our study who had BIRADS IV or V lesion on mammogram. The positive histo-pathological diagnosis in terms of diseased breast tissue was present in 46 (92.15%) cases while normal breast tissue was present in 4 (7.84%). Our results are comparable with the other international studies. Abrahamsan et al reported successful biopsy in 254 out of 272 (93.3%).^{9,10} Another study by reported 351 out of 370 (94.86%) were positive.¹¹ However, some of the studies have reported rate of surgical failure to remove (at least part of) non palpable breast lesion up-to 17.9% of cases.^{12,13}

CONCLUSION

Needle localization biopsy was a valuable tool in the management of the breast lesions which are detected either in ultrasound or mammogram. The outcome can still be improved by bringing expertise in interventional radiotherapy. Our experience confirms the previous reports and adds further evidence in favor of this technique.

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