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## Preoperative ultrasound guided biopsy of axillary nodes for staging in patients with clinically negative axilla – in a tertiary care center in a third world country

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**Objective:** The aim of the current study is to determine the feasibility and accuracy of ultrasound guided core biopsy for staging the axilla in clinically node negative patients with invasive breast cancer.

**Introduction:** Historically, axillary lymph node staging was performed by means of axillary lymph node dissection. Because of the high morbidity of this procedure, Sentinel Lymph Node Biopsy (SLNB) has become the standard of care in patients with clinically node-negative breast cancer. However; SLNB also has some morbidity and anesthetic risk. Not only is it expansive and time consuming, SLNB can be complicated by formation of a seroma, sensory nerve injury, lymphedema and limitation of the range of shoulder motion. Furthermore, in order to avoid a second procedure many centers rely on the availability of frozen section for the analysis of the node. In our part of the world not all the centers have the facility of frozen section available. Moreover, the analysis of published data shows that the accuracy of frozen section with a combination of H&E staining and immunohistochemistry on sentinel lymph nodes lay between 73 to 96%. Pre-operative identification of axillary node positivity in patients with clinically negative nodes would allow one-stage axillary clearance, avoiding the sentinel node biopsy (SLNB) step. As clinical examination is unreliable in determining node positivity, pre-operative diagnosis presently depends on imaging of the axilla using imaging modalities. Pre-operative staging of suspicious lymph nodes detected by US guided core biopsy can decrease the need for SLNB by 21% to 70%. The aim is to determine the accuracy and feasibility of ultrasound guided core biopsy to stage the axilla in clinically node negative patients, comparing with final histopathology as gold standard.

**Material & Methods:** It was a non-randomized, prospective interventional study, done at Radiology Department of Aga Khan Hospital. All the patients who were diagnosed with breast cancer (histologically proven) and had clinically negative axilla and had ipsilateral positive axillary ultrasound underwent axillary lymph node biopsy. If the result was negative they were subjected to SLNB, histopathology result were used as gold standard.

**Results:** The sensitivity of ultrasound guided biopsy was 88%, specificity 100%, PPV 100%, NPV 89.28% and diagnostic accuracy 94%.

**Conclusion:** Axillary lymph node biopsy under ultrasound guidance is standard of care in clinically negative axilla avoiding unnecessary axillary dissection.

### Biography

Imrana Masroor is currently working as an Associate Professor and Section Head of Women Imaging at Radiology Department, Aga Khan University Hospital Karachi, Pakistan. She has two fellowships in diagnostic imaging, one from College of Physician and Surgeons Pakistan and second from Royal College of Radiologist, UK. She also holds the European Diploma in Breast Imaging. She is also the program Director for the fellowship program in Women Imaging at the department. She has a number of national and international publications to her credit in field of expertise.

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