Prospective comparison of intraoperative touch imprint cytology and frozen section histology on axillary sentinel lymph nodes in preoperative node-negative breast cancer surgery: Is touch imprint cytology is enough for intraoperative sentinel lymph nodes test?

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Objective:
Since the late 1970s, sentinel lymph node biopsy (SLNB) has been used for several solid malignancies to identify lymph node metastases with less surgical morbidity than complete lymphadenectomy. Recent evidence suggests that axillary lymphadenectomy is not required for breast sentinel nodes with micrometastases (<2 mm). In an era of changing clinical management of sentinel nodes, we should detect only macrometastases intraoperatively.

◆ Touch imprint cytology (TIC) is an easier, less expensive, and faster method, but its sensitivity has appeared to be low according to the previous reports.
◆ Histopathological frozen section (FS) method commonly used, but it takes over 30 minutes and requires difficult techniques and expensive equipment.

The purpose of this study was to demonstrate that TIC is more useful than the FS method for sentinel lymph nodes in preoperative node-negative breast cancer operations for identifying macrometastases.

Methods:
- Thirty-one consecutive patients with clinically node-negative breast cancer treated with SLNB
- Intraoperative TIC and FS
- Between November 2017 and October 2018
- The TIC was stained using Papanicolaou and Dif-quick stains.
- These results were compared with the routine postoperative paraffin sections (PS).

Results:
- With TIC, the Papanicolaou stain took a mean of 12 minutes, and the Dif-quick stain took a mean of 10 minutes.
- In contrast, the FS method took a mean of 80 minutes.
- TIC confirmed macrometastases in four cases.
- All macrometastases were diagnosed equally by the two techniques (TIC and FS).
- With respect to the detection of macrometastases, the sensitivity of TIC was 100%, with a specificity of 100%.

Conclusion: TIC of SLNB for breast cancer is an easy and useful method for identifying macrometastases.