Evaluating the clinical impact of omitting routine intraoperative frozen section during sentinel lymph node biopsy in early breast cancer

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ABSTRACT

Introduction: Sentinel lymph node biopsy (SLNB) is the standard for staging axillary lymph nodes in early breast cancer with clinically and radiologically negative nodes. Previously, intraoperative frozen section (iFS) helped to avoid a deferred axillary dissection (AD) in node-positive cases. However, over the last decade, evolving evidence has led to a global decline in AD rates. Aim This study aimed to assess whether routine use of iFS remains necessary. The secondary objective was to evaluate whether omitting AD in patients with 1–2 positive sentinel nodes impacts overall or disease-free survival. **Materials and Methods:** We conducted a retrospective review at Universiti Kebangsaan Malaysia, identifying patients who underwent SLNB for early breast cancer over a 10-year period. Patients with iFS and positive nodes underwent immediate AD. In those without iFS, patients with T1–T2 tumors and 1–2 positive nodes received adjuvant radiotherapy without AD. **Results:** A total of 331 patients underwent SLNB, with an average of three lymph nodes harvested. iFS was performed in 97 patients (30%). The false negative rate for iFS was 6%, with half of the cases due to micrometastases. Performing iFS prolonged surgery by an average of 37 minutes. Only 16 patients (4.8%) benefited from iFS by avoiding a deferred axillary dissection. After a median follow-up of 72 months (6 years), overall survival rates at three and five years were 95% and 93%, respectively; disease-free survival rates were 93.65% and 90.33%. These outcomes were higher than the national average. Local recurrence rates were low, at 2.4% and 3% at three and five years. **Conclusion:** Routine iFS during SLNB for early breast cancer is unnecessary and should be reserved for selected cases. Omitting AD in patients with 1–2 positive sentinel nodes does not adversely affect oncological outcomes.

Keywords: Sentinel lymph node biopsy, axillary dissection, early breast cancer, survival and recurrence rates, intraoperative frozen section