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Intra-operative palpation for clinically suspected axillary nodes reduces the false negative rates of sentinel lymph node biopsy in breast cancer

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Background: Axillary sentinel lymph node biopsy (SLNB) is widely used to identify the first lymph node draining breast tumors. When negative, axillary dissection is avoided since the rest of the nodes are expected to be negative. A false negative rate of approximately 5% is considered acceptable.

In case of a false negative biopsy, adjuvant and local treatments might be sub-optimal. Our aim was to assess the role of intra operative axillary palpation for clinically suspected nodes unmarked by tracer on the false negative rate of SLNB in breast cancer patients.

Material and Methods: We reviewed our prospective database of the patients operated for primary invasive breast cancer in our service between the years 2000 to mid 2004 that had a SLNB. Only patients with preoperative clinically negative nodes were included. The procedure included injection of radiotracer before surgery, intraoperative palpation of the axillary content, and dye injection as backup.

Results: Of the 290 patients included, 89 patients (30.7%) had sentinel nodes involvement by tumor. Seven patients had clinically suspected non-tracer marked nodes identified only by palpation, in addition to nodes detected by tracer. In 5 of the 7, the nodes harbored metastasis. In four of these 5 patients (4.5% of the 89 patients with axillary involvement), the palpable nodes were the only ones involved, and would have been missed if the axillary content was not palpated, with a false negative result of the procedure.

Conclusions: A generous axillary incision and inspection of the axilla by palpation facilitates reduction of false negative results by as much as 4.5% and should be a part of the SLNB procedure.

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Intra-operative evaluation of specific sentinel lymph node characteristics can reduce operative time

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Background: Lymphatic mapping with radioactive tracer and frozen section examination of sentinel lymph nodes (SLN) is widely used to avoid axillary dissection in patients without axillary lymph node metastases. When multiple sentinel lymph nodes are found the examination becomes time-consuming for the pathologist and may prolong operation time if the surgeon has to wait for the result. We sought to detect characteristics of SLNs that might identify the nodes with the highest likelihood of harboring metastases and reduce the number of SLNs that need to be examined histologically.

Patients and Methods: We reviewed our prospective database of patients operated in our service from mid 2000 to mid 2004 who had a SLN biopsy. Factors associated with a high likelihood of nodal metastasis were identified, serving as a base for a "node-handling algorithm".

Results: Of the 289 patients included in the study, 89 patients (30.8%) had SLN involvement with tumor, and 215 patients (74.4%) had multiple radioactive nodes. The lymph nodes most likely to be involved were those that had the highest radioactive counts and those suspicious for metastasis by palpation. When examining the first two such lymph nodes, 96% of all patients with SLN metastasis could be identified.

Conclusions: In breast cancer patients with multiple radioactive nodes, all radioactive nodes should be removed and their radioactive counts recorded. Clinically suspicious non-tracer marked nodes should allso be removed. The pathologist should be requested to examine clinically suspicious nodes first and then those with the highest radioactive counts. Once the first two such nodes have been examined, surgery can be terminated with an acceptable risk of false negative evaluation. This is especially true for patients with a large number of radioactive nodes with a high anesthetic risk.

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Randomised clinical trial comparing two mastectomy techniques

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Method: A single blind randomised control trial compared the outcome of patients undergoing simple mastectomy using either the standard scalpel blade technique or the bipolar cutting scissors technique. Each arm of the trial contained 30 patients.

Results: The two primary outcome measures were blood loss intra-operatively (ml) and operating time (minutes). There was a significant difference between the two groups.

Table 1: Mean (SD) of primary outcome variables.

Outcome measure	Mean (SD)		95%CI for difference	p-value
	Scalpel	Scissors	in geometric means	
Blood loss[1]	406.4 (237.7)	235.0 (183.6)	(0.45, 0.77)	0.0002
Operating time[1]	48.0 (10.5)	42.1 (7.4)	(0.83, 0.97)	0.0082

[1]The mean and standard deviation are unadjusted and not transformed. The p-values are based on a log-transformed analysis of covariance with breast weight.

There was a statistically significant benefit in the scissors group in terms of the secondary outcome measures of chest wall clearance and skin flap development as assessments of surgical completeness of mastectomy. There is no evidence of any other secondary outcome measures differing between the treatment groups.

Conclusion: There is strong evidence that using electric scissors reduces intra-operative blood loss and operating time. There is some evidence that the scissors may provide better surgical completeness of mastectomy.

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Comparison of pre-operative management, decision making and surgical approach in six European Breast Cancer Units – the differences experienced and reported by European visiting fellows

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Introduction: This paper was aimed to identify and compare differences in pre-operative management, decision on surgery and surgical approach for breast cancer in six big European Breast Cancer Units in Italy, France, Czech Republic and Serbia and Montenegro, and to discuss eventual impact of detected differences on outcome of the disease.

Methods: The history of breast cancer management during the few past decades has been one of decreasing invasiveness, decreasing morbidity, and increasing effectiveness. Except the latter result, the previous two are partial success but it is the latter that is the most desired and most beneficial. The authors of this paper, who have been for the first time in their career as young visiting/observing/training guests invited by four prestigious European Breast Cancer Units in Italy and France (National Cancer Institute – Milan, European Institute of Oncology – Milan, Institute Gustave Roussy – Villejuif, Institute Curie – Paris) as fellows of different European and international institutions (EUSOMA, EACR, ESSO, UICC, ESO, FECS, French Government) in the period from July 2003 to December 2005 and who are employed as surgeons/pathologists at Institute of Oncology and Radiology of Serbia in Belgrade and in Hospital Motol of 2nd Medical Faculty of Charles University in Prague, tried to detect and compare differences in several parameters regarding pre-surgical evaluation, decision making and surgical approach for breast cancer in those centres as well as to discuss the impact of identified changes on outcome of the disease. The special attention has been directed to inspection of such small details as waiting list (if any) for consultation and hospitalisation/surgical intervention, way of decision for surgical intervention (individual or oncology meeting/staff), horizontal or oblique incision for mastectomy, duration of hospital stay, sentinel node procedure (blue dye, radioactive tracer or both, one or two-days protocol, imunochistochemistry examinations during frozen section or not), preferred way of breast reconstruction, number of assistants during operation, drainage, preservation of intercostobrachial nerve during axillary surgery, suture, etc. The data were collected according to personal presence in different institutes, observation and asking the questions. The remaining information has been obtained by asking the surgical staff with a poll consisting of different questions. Descriptive statistics were used to show the differences among the parameters under comparison.