Results: The nomograms differ in the inclusion of the results of intraoperative examination of SLNs. In all three nomograms US examination of the axilla was a powerful independent variable. Other variables included (different in different nomograms) were tumor size, lymphovascular invasion, metastasis size in SLN, number of negative and number of positive SLNs. Mean absolute error and mean area under the ROC curve equals to 0.016 and 0.77 for the first, 0.023 and 0.75 for the second and 0.014 and 0.79 for the third nomogram.
Conclusions: Three nomograms for predicting the likelihood of non-SLN metastases were created at the Institute of Oncology Ljubljana. They differ in the inclusion of the results of intraoperative examination of SLNs and are thus applicable in different institutions. All of them include the results of the preoperative US examination of the axilla, which turned out as a powerful independent variable. The validation results for all three nomograms seem promising.

5121 POSTER

The relation between sentinel lymph node micro-metastasis, isolated tumour cells and the final axillary lymph node status after complete dissection

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Background: Sentinel lymph node (SLN) sampling for early breast cancer since its introduction gained a lot of popularity and despite the its debatable false negative risks it remains a widely practiced procedure.
The introduction of the immuno-histochemistry evaluation of the Removed SLN's lead to the occasionally encountered micro-invasion 0.2−2 mm as well as the even smaller isolated tumour cells <0.2 mm, the treatment of which is still a debatable issue between authorities world wide.
Aim: The aim of this study is to compare the outcome of the full axillary desection after a positive SLN, to identifiy the presence of non-sentenile positive lymph nodes in each group; macro, micro and ITC positive Nodes.
Method: we revied all the patients who had SLN in two university hospitals by the group of surgical oncology department in the central university hospital of the university of montreal in a retro spective fasion between January 2004 and July 2008. Inclusion criteria: All patient of T1 and T2, with clinically non-palapable axillary LN's. Exclusion criteria: any patient with a T3 and above, palpable LN, or recurrent cancer.
Data collection included diagnosis, age, clinical stage of the disease, number of lymph nodes, SLN frozen section and the final pathology. End point was the presence or absence of non-sentinel lymph node after axillary dissection.
Results: We reviewed 460 patients, mean age 63.5±11.1 years (ranging 39−83), we had a total of 59/460 (12.8%) patients with a positive SLN, the average No. of SLN's was 2.8±1.6, of these; macrometastesis was identified in 30 SLN's, micro-metastasis in 9 patients, and only isolated tumour cells in 9 patients.
The average No. of lymph nodes removed in the complete axillary dissection was 10.16±3.5 (6−14 Nodes).
The number of patients with T1 primary lesion was 22 compared to 37 with T2 tumour.
The finale Hystopathology showed a total of 12 positive non sentinel LN's (12/59) of which; one non-sentinel LN was positive for ITC's.
All of the positive non-SLN's were associated with those with clear positive SLN's in Frozen section and only one was associated with a SLN with micrometastesis in Frozen section after re-examination with histo-chemical study, however though it was only associated with ITC in one (1/12) non-sentinel LN's after axillary dissection. ($p = 0.001$)
When comparing the effect of Micro-metastasis SLN to ITC SLN $p = 0.04$. We could not identify any relation between the No. of SLN or the hormone status with the final axillary dissection Non-SLN's.
Conclusion: We concluded that the presence of SLN Micrometastesis or ITC is unlikely to be associated with the presence of any Non-sentinel LN's after complete axillary clearance.

5122 POSTER

Ductal lavage-a tecnhique for the early diagnosis of breast cancer: our experience during the last three years

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Background: Breast cancer is the most frequent cause of death among the women. Ductal lavage is a simple tecnhique which can detect cells from the last duct lobe unit the place that arrives first the breast cancer.
Patients and Methods: 220 patients are enrolled. 122 had positive family history or Gail Risk >1.7, 1 had breast cancer on the other breast, 92 had nipple excretion and 5 had clinical picture of cancer. In these five the technique was held one day before the operation. The mean age was 50.3±10.07 years. After local aneasthetic ointment we inserted a small catheter into the nipple and after massaging the breast we infused 10−20 cc of Ringer Lactated solution and the lactic duct cells are being lavaged. The material from the lavage was examined cytological with thin-prep method. All the patients had mammography or breast ultrasound.
Results: One patient had suspicion of papillary carcinoma in the cytological examination of lavage and 25 had atypia (3: marked, 7: moderate, 15: mild – 11.36% of all the patients and 20.5% of those who had family history or Gail Risk >1.7). 2 had inflammation in the material. As a remark we found also that in patients with family history or history of breast cancer in the other breast there was more cellularity in the material.
5 patients with clinical picture of carcinoma had positive lavage and they had surgical treatment as it was planned. One with marked atypia had open biopsy for a dysplastic area behind the nipple in mammography (histological examination: negative for malignancy). The other two had MRI who was negative and the technique will be repeated after three months. One with suspicion of papillary carcinoma had an MRI which was negative and after 3 months the repeat of ductal lavage was negative. Patients with atypia are under close supervision (physical examination every three months).
Conclusions: As ductal lavage offers a bigger amount of cells from the final duct-lobe unit can help in the early diagnosis of breast cancer expecially in patients with Gail Risk >1.7. It can also help us to avoid repeated cytologic examinations during the years in those patients who have nipple excretion for a long time as the material arrives from the last duct lobe in this technique and the diagnosis is more safe.

5123 POSTER

Intra-operative assessment of sentinel lymph nodes in breast cancer with touch imprint cytology – a cost effective and reliable method

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Background: Sentinel lymph node biopsy (SLNB) for staging of axillary lymph nodes in breast carcinoma has recently become the procedure of choice and replaces the axillary node sampling or clearance. To derive maximum benefit for the patient the procedure is best complemented by intra-operative assessment of the sentinel lymph node (SLN). Though the gold standard of this assessment is histological evaluation, this is not possible intra-operatively. Frozen section analysis is labour intensive and requires use of cryostat. PCR technology, though available, requires technical expertise and significant additional funding. We have used intra-operative assessment of the SLN using touch imprint cytology (TIC). This method of assessment is cheap, fast, reliable and technically less demanding as compared to frozen section or PCR technology. The aim of this study was to assess the feasibility and accuracy of this new technique.
Method: SLN's were received fresh and dissected to fully expose the intact node. Nodes less than 5 mm were bisected and others were sliced at 2 mm interval. Each cut surface was touched onto a slide allowing the weight of the node to release the cells onto the slide. Slides were air-dried before staining with Romanowsky stains. The staining process generally took less than 1 minute. In the initial pilot phase (50 cases) each slide was examined by two cytopathologists independently. Results though phoned in were not acted on for axillary node clearance for this phase. Average time taken from receipt of the SLN in the laboratory to reporting has been approximately 10 mins. All TIC results were compared with subsequent routine histology.
Results:

	Patients	Sentinel lymph nodes
Total number	232	388
Sensitivity	54%	55%
Specificity	100%	100%
Positive predictive value	100%	100%
Negative predictive value	88%	90%
Accuracy	90%	91%

In our cohort of 232patients, 52 (22%) were positive for metastatic carcinoma to the SLN. Out of these 52 patients, TIC was positive in 28 (54%). Thus 28 patients (54%) avoided a second operation for axillary clearance. There were no false positives in our series.
Conclusions: TIC has accuracy rate of 90% and positive predictive value of 100%. Patient should be counseled about 10% negative predictive value where TIC is negative but histology is positive. 54% of patients can avoid