

carcinomas disease free survival at 5 years was 97% and 93% at 10 years. In the rest Grade I carcinomas disease free survival at 5 years was 95% and 89% at 10 years.

Conclusions: Tubular breast cancer is a specific type of breast cancer with an excellent prognostic and survival, but is necessary in all cases axillary node study.

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Usefulness of a New Thin-plastic-adhesive-film Method for Pathological Examination of Intraoperative Sentinel Node Biopsy

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Background: Intraoperative frozen sections (FSs) of sentinel lymph nodes (SLNs) can be used to detect metastatic disease, allowing immediate axillary lymph node dissection. However, pathological inconsistency in the SLN diagnosis is sometimes encountered when the results of FSs and permanent sections are compared. One main reason for the inconsistency is inferior quality of FS slides. In this study, we evaluate the utility of a new thin-plastic-adhesive-film (Kawamoto's) method to improve the quality of FS slides in intraoperative diagnosis of SLNs.

Material and Methods: 145 breast cancer cases underwent a sentinel node biopsy between August 2010 and November 2011. All SLN samples were prepared using adhesive film (Cryofilm Transfer Kit; Finetec Co., Tokyo, Japan) attached to samples before cutting, and stained with hematoxylin and eosin (H&E). Permanent sections were later prepared from the remaining frozen tissues and examined using H&E staining without additional immunohistochemical staining. Accuracy, specificity and false-negative rate of FSs were compared with previous data (208 cases) without Kawamoto's method between January 2009 and July 2011.

Results: The final pathological results showed metastasis in 29 SLNs (20%), of whom one case was diagnosed as negative by the FS. Accuracy, specificity and false-negative rate of FSs were 99%, 100% and 3.4%, respectively. The previous data of FSs without Kawamoto's method were 92%, 100% and 8.3%, respectively. Almost all FS samples with Kawamoto's method were fully embodied without technical artifacts such as sample defect and wrinkles, and were especially suitable to detect micrometastasis or isolated tumor cells in subcapsular sinus areas of lymph nodes.

Conclusions: Kawamoto's method improved the quality of FS slides and the results of the accuracy and false-negative rate of intraoperative diagnosis of SLNs. This procedure does not need special technique or expensive running cost, and thus is available in all other laboratories.

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Lymphangiogenesis as a Prognostic Marker in Breast Cancer Using D2-40 as Lymphatic Endothelial Marker – A Preliminary Study

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Background: The markers of prognosis are used to predict the clinical course of disease and the outcome for patients with invasive breast cancer. Our objective was to investigate the relationship lymphangiogenesis and the process of lymphatic invasion (LVI) with well-known prognostic markers.

Methods: Thirty five surgically treated patients with invasive breast cancer were evaluated prospectively. Tumour lymphangiogenesis and lymphatic invasion was assessed using D2-40 endothelial marker and was correlated with various clinico-pathological prognostic parameters.

Results: The mean age was 45.97±12.09 years (range 30–80 years). LMVD ranged from 5/hpf to 56/hpf with a mean score of 13.4±10.8 and median of 9. LMVD correlated significantly with tumour size (p=0.003), histological grade (p=0.046), lymph node status (p=0.030). Lymphovascular invasion on D2-40 staining [LVI-D40] was found in 13 (37.1%) cases compared to 6 cases (17.1%) on H&E staining showing a poor agreement (k=0.244). LVI correlated significantly with lymph node status (p=0.011). There was a strong association between tumour size (p=0.142), histological grade (p=0.066) though the correlation was not statistically significant. There was no significant correlation of LMVD and LVI with stage, estrogen receptor, progesterone receptor or HER2/neu immunoreactivity. The mean LMVD in LVI positive patients was higher (p=0.001).

Conclusion: The high LMVD and positive LVI shows a close relationship with known markers of poor prognosis. The presence of high LMVD and LVI can predict a worse outcome for patients with invasive breast cancer and may be used as an indicator of aggressive behaviour, metastatic ability (nodal and systemic) of the primary.

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Intra-operative Use of One Step Nucleic Acid Amplification (OSNA) for Whole Sentinel Lymph Node Analysis in Breast Cancer Patients

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Intra-operative use of One Step Nucleic Acid Amplification (OSNA) for whole sentinel lymph node analysis in breast cancer patients.

Background: Several clinical studies have shown that the molecular OSNA method has a comparable performance as in-depth histology, containing step-sectioning and immunohistochemical staining, in the diagnosis of breast cancer sentinel lymph node (SLN) metastases. We describe OSNA use for our routine intra-operative SLN analysis in breast cancer patients.

Material and Methods: 334 SLNs from 162 breast cancer patients (SLN/patient ratio: 2.1) were investigated with OSNA. The whole SLN was homogenised, and an aliquot of the lysate was investigated in the automated OSNA instrument with a ready-to-use reagent system. The amplification technique uses CK19 mRNA as a marker and yields qualitative results (+++, +, -) as well as CK19m RNA copy number. A (++) is equivalent to a macrometastasis, (+) to a micrometastasis, and (-) negative. In case of a positive result axillary dissection was nearly always performed during the same surgery.

Results: In 61 patients OSNA gave a positive result (30 samples with ++, 62 samples with +), resulting in a positivity rate of 37.7%. In 101 patients the OSNA result was negative. The pT and the axillary non-SLN status, as determined by H&E, of every patient were correlated to the OSNA results in each patient.

Conclusions: With OSNA a standardised analysis of the whole SLN can be performed, thereby avoiding second surgeries and any sampling bias caused by uninvestigated SLN tissue. The exact SLN status can be obtained intra-operatively.

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Primary Mucinous Breast Carcinoma of Columnar Cells Resembling Ovarian Cancer

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Background: Primary mucinous breast carcinoma of columnar cells is a very rare subtype of breast neoplasms. Sometimes the diagnosis of this rare entity is quite difficult.

Case report: A 74-year-old woman presented with a left breast tumor, measuring 7 × 7 cm, in the upper-lateral quadrant, with inflammatory components (peau d'orange). She reported a personal history of cholecystectomy, diabetes mellitus under medication and allergic predisposition and no family history. Four months later, a core biopsy showed infiltrating ductal carcinoma, of no specific type, grade II, ER(-), PR(-), and HER2(-) (triple negative). The TNM clinical staging was T4cN3M0, (Stage IIIC). She was treated with 3 cycles of Cyclophosphamide and Adriamycin, followed by 2 cycles of Cisplatin – 5FU, due to progressive disease, with axillary lymph node block. The re-evaluation showed minimal response and the tumor was considered marginally operable.

A left mastectomy with an attempt of radical axillary resection was performed. The histology showed two tumors in the tail of Spence which consisted of lymph tissue, infiltrated by adenocarcinoma with high columnar cells. There were foci of mucous production and extended necrosis. In addition there was infiltration of the axillary lymph nodes. The immunohistochemistry was positive for Keratin-7 and CEA, focally positive for Keratin-20 and negative for Vimentin, CA 19-9, CA125, ER, PR, C-erb-B2, GCDEP-15 and TTF-1. The immunohistochemistry, in conjunction with the tumor morphology, is compatible either with metastatic ovarian cancer, or primary mucinous breast carcinoma of columnar cells. The work up failed to reveal any suspicious lesion (neither ovarian, nor pulmonary). During local therapy with radiotherapy there was a tumor progression (cutaneous nodules). The patient died 16 months after diagnosis with pulmonary metastases and anterior chest wall infiltration.

Conclusion: The primary mucinous breast carcinoma of columnar cells is a rare entity. It is a subtype of mucinous producing carcinomas of the breast. The clinical features are similar with the common infiltrating ductal breast adenocarcinomas.