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POSTER

The induction chemotherapy with taxotere and cisplatin for locally advanced breast cancer

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Purpose: To evaluate the response rate and toxicity of taxotere with cisplatin for locally advanced breast cancer.

Methods: 19 patients who were fitted for the criteria of locally advanced breast cancer with tumor size more or equal to 5cm; proved by core biopsy. All were after systemic work ups and proved no any metastasis, 2 patients with tumor 4 cm were included for breast conservation surgery.

The patients was treated with Taxotere and Cisplatin. Initial dose 60 mg/m² for Taxotere and Cisplatin. If side effects were less than grade 2 the dose was escalated gradually to 75 mg/m² for both agents.

Results: One patient achieved pathological complete remission. 16 patients achieved partial response. The total response rate was 90%. The side effects were tolerable. Final dose 60 mg/60 mg for 4 patients, 75 mg/60 mg for 10 patients, 75 mg/75 mg for 7 patients.

Conclusion: Taxotere and cisplatin reached 90% response rate for LABC. The side effects were tolerable.

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POSTER

Early detection of lymphoedema

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Introduction: Lymphoedema is a pathologic subcutaneous accumulation of extracellular fluid which occurs in 6–30% of women after surgical therapy or radiotherapy of the breast cancer. For the detection of lymphoedema various methods can be used: arm circumference, total limb volume measurement, tonometry, DXA, MRI. All of the currently used methods lack with either accuracy or accessibility. Multifrequency bioelectrical impedance analysis (MFBA) is a noninvasive technique of measuring the extracellular water (ECW) by passing a current with different frequencies through the body and recording the impedance to the flow of the current. The cell membranes act as an insulator at zero or low frequencies which prevent a current to pass through the cells allowing us to measure ECW – compartment of lymphoedema.

Methods: We perform a measurement of patients undergoing a surgery for breast cancer T1-T3 by MFBA and total limb volume one day before surgery and in two month intervals after the surgery and a control group of healthy female. We evaluate the ratio between ECW of the affected and contralateral arm. The difference in the results between two consecutive measurements over two standard deviations indicate a development of a lymphoedema. The results of MFBA are compared with the total limb volume measurement. Another evaluation is made depending on the surgery performed (ALND versus sampling versus SLNB).

Conclusion: We present the methodology of the technique and the first results. MFBA seems to be a promising, accurate, easy to use and low-cost method for the detection of lymphoedema – the most severe complication of the breast cancer surgical or radiation therapy.

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POSTER

Seroma formation in breast cancer patients

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A study was conducted to investigate about seroma formation in breast cancer patients after definitive surgery. A convenience sample of breast cancer patients was entered into the study. Eligible patients were those who underwent surgical therapy (modified radical mastectomy or breast preservation and axillary lymph node dissection). The demographic data and clinical information were extracted from case records. Seroma formation was studied in relation to age, type of surgery, tumor size, nodal involvement, pathological type, preoperative chemotherapy, surgical instrument (electrocautery or scalpel), use of pressure garment, duration of drainage and arm activity. In all, 135 breast cancer patients were

studied. The mean age of the patients was 46.2 (SD=11.8) year and mostly presented with the stage II disease (59%). Seventy-two percent underwent modified radical mastectomy and the remaining 28% received breast preservation surgery. Seroma occurred in 39% of patients. In logistic regression analysis an association of postoperative seroma with pathological type was noted (ductal versus non-ductal, odds ratio = 17.7, P=0.01). The seroma formation did not show any significant results by any other variables studied. The findings suggest that breast cancer patients' pathological characteristics are an independent predicting factor for seroma formation.

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POSTER

Rare life-threatening complication of wire-guided breast biopsy

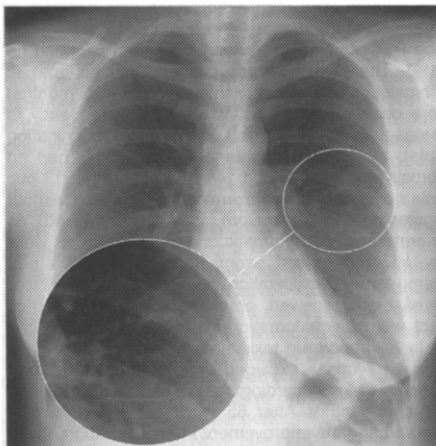
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A case of 40-year-old woman referred to wire-guided breast biopsy is presented.

At breast sonography the patient was diagnosed with suspected, non-palpable lesion in her left breast. The lesion was not visible on mammography. Pathologist, on the basis of fine needle aspiration, suggested removal of the lesion. The patient was referred to wire-guided breast biopsy.

The localization wire was lost shortly after placing it in position under sonography guidance in the radiology department. The wire was suspected to "slip away" from the breast. Subsequently the second localization wire was placed (also under sonography guidance). Afterwards the uneventful breast surgery followed.

Chest X-ray was done after surgery due to slight pain on breathing reported by the patient. The previously lost localization wire was found to be in the chest and the presence of small pneumothorax was established.



Four days after surgery patient developed acute pain on the left side of the thorax, fatigue, shortness of breath and sleep disturbances. Another chest X-ray was performed and the previously lost localization wire was found to migrate into hilus of the lung.

The wire was evacuated during thoracotomy.

The reported case represents rare life-threatening complication after commonly performed wire-guided breast biopsy. The possibility of migration of the wire lost prior to surgery should always be taken into account. Therefore search for lost wire is always mandatory.

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POSTER

D.L.T. (Decongestive lymphatic therapy) in treatment of secondary lymphedema of breast cancer

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Purpose: D.L.T. (Decongestive lymphatic therapy), or C.D.P. (Complex decongestive physiotherapy) is a non-invasive conservative treatment for lymphedema. D.L.T. has been performed over 20 years in Europe and Australia; Including skin care, M.L.D. (manual lymphatic drainage) M.L.B. (multiple layer bandages) or wearing garments, therapeutic exercise four parts. There are many published results showed D.L.T. is effective in treating lymphedema. But there is no any report about D.L.T. treatment for lymphedema of breast cancer in Taiwan.

Materials and Methods: Since Nov, 2001 to Oct, 2002, we selected 20 women of unilateral upper limb lymphedema post-breast cancer treatment. The patients who were active metastasis, active infection, bil lymphedema, congestion heart failure, and renal function impairment were excluded. The patients received one time D.L.T. treatment per day, the treatment times from 4 to 26 times. We measured the circumference calculation volume edema ratio (=excess volume/normal side volume) before and after treatment; And edema reduction ratio (=reduction volume/excess volume).

Results: Post-treatment the circumference, calculation volume, edema ratio were significantly reduced ($P < 0.001$). The edema reduction ratio is $-55.6 \pm 57\%$. The edema ratio is no scientifically relationship with onset time and age. The edema reduction ratio is no correlation with edema onset time, age and edema ratio.

Conclusion: The D.L.T. program is effective in treatment of lymphedema post-breast cancer. Because there are only 20 cases, we need more cases to determine the relationship during edema reduction ratio, edema ratio, age, and onset time. The long-term result of D.L.T. treatment will be follow-up in the future.

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POSTER

Lymphatico-venous communications protect against development of breast cancer-related lymphoedema

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Introduction: A number of apparent anomalies surround breast cancer-related lymphoedema, such as why only a minority of women are affected following standard treatment, and the regionality of the swelling, with parts of the arm often 'spared'. This study aims to prospectively investigate the possible protective role of lymphatico-venous communications within the arm.

Methods: A total of 7 women were investigated prior to breast cancer surgery to include a Level II axillary clearance, and 3 months post-operatively. Radiolabelled protein was injected into the hand, with subsequent measurement of rate of clearance from the depot and appearance in blood sampled from both the ipsilateral and contralateral basilic vein.

Results: None of the women had developed lymphoedema at 3 months. There was no significant change in either depot clearance or rate of appearance of protein in contralateral blood samples following surgery. However, there was a significant increase in protein levels in ipsilateral venous samples following surgery.

Conclusions: Lymphatic function following axillary node clearance is maintained by an increase in local vascular access within the arm via lymphatico-venous communications, bypassing any obstruction to lymphatic flow at the axilla.

Thursday, 18 March 2004

16:00-17:15

PROFFERED PAPERS

Radiotherapy

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ORAL

Significance of margins of excision on breast cancer recurrence (on behalf of the EORTC Radiotherapy, Breast Cancer Groups)

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Purpose: The association between positive resection margins and the risk of ipsilateral breast tumor recurrence (IBTR) after breast-conserving therapy (BCT) is controversial. The absolute width of what minimizes the risk of IBTR is uncertain. This study examines the interaction between margin status and margin width on the risk of 5-year IBTR.

Patients and Methods: A series of 1866 patients with clinical Stage I or II breast cancer, who participated in the EORTC 'boost versus no boost trial', were retrospectively compared for 5-year estimates of IBTR. In the study population, 44% of patients with involved surgical margins and 100% of patients with microscopically uninvolved margins had an institutional central pathology review. The median follow up time was 81 months. Final margin status (FMS) was determined by the distance of invasive or in situ carcinoma from inked surgical margin: negative (no residual tumor or at least 2 mm from inked margin), close (less than 2 mm from inked margin), or positive (inked margin involved). All patients underwent tumorectomy followed by whole breast irradiation of 50 Gy. Patients having a microscopically complete excision (FMS close or negative) were randomized to receive no boost or a 16 Gy boost, while patients with a microscopically incomplete excision (FMS positive) were randomized to receive a boost dose of 10 or 26 Gy. In the study population, the FMS was negative in 74%, close in 12%, and positive in 14% of patients respectively.

Results: The 5-year local tumor control rate for patients with positive, close and negative margins was 90%, 92%, and 95% respectively ($p < 0.002$). Patients with close margins benefited the most from a boost dose among the patients with a microscopically complete excision ($p < 0.003$). Patients under 50 years of age with FMS close or negative benefited significantly from the boost dose ($p < 0.0002$). When FMS and age were included in a multivariate model for local control, there was a significant interaction ($p = 0.001$) between the two variables. There was an increase in the relative risk of IBTR for age less than 50 years old within the close FMS category ($p < 0.001$). A comparison of radiation dose in the positive margin group revealed that an increase in radiation dose (low boost dose 10 Gy versus high boost dose 26 Gy) did not significantly improve the local tumor control rate. The local control rate in the low boost dose group was 90% compared to 92% in the high boost dose group ($p > 0.288$).

Conclusion: There is an increased risk of local recurrence as the final margin status distance from the inked resection margin becomes smaller. In patients less than 50 years old with microscopically complete excision, a boost dose of 16 Gy significantly improves the local control rate. Patients with positive margins have a two times higher risk of local recurrence compared to the negative margin group. High boost dose radiation does not fully overcome the adverse effect of positive margins.

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ORAL

Breast conserving therapy: comparison of conventional radiation fields to field arrangements based on delineation of breast glandular tissue after CT-scanning in treatment position

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Introduction: Breast cancer patients receiving breast conserving therapy have a good prognosis. This stresses the importance of efforts to optimize local tumor control, reduce late toxicity of treatment and improve cosmetic outcome. Conformal radiotherapy might enable better target coverage, a decrease of dose inhomogeneity in the target and sparing of normal tissues. In our institute we ran a study to prepare the introduction of routine use of CT planning and Intensity Modulated Radiotherapy (IMRT) with or without target delineation.

Patients and Methods: 19 patients with left-sided breast cancers received conventional determination of tangential fields as well as a planning CT scan in treatment position. The glandular breast tissue (GBT) and the 'gross tumor volume' (GTV) for the boost were delineated on all CT slices by 4 radiation oncologists and 1 radiologist. Inter observer variability was studied. Coverage of the 'planning target volume' (PTV) for the breast glandular tissue by the conventional fields was explored. 3D-CT planning was performed using the PLATO Radiotherapy Treatment-planning System (RTS). Multileaf collimation was utilized in the CT-planned tangential fields. Supplementary fields were applied if indicated to improve dose homogeneity. Dose volume histograms (DVH) for target volumes and normal tissues were derived from CT-planning and will be studied for conventional planning. These will be compared with each other.

Preliminary Results: Interobserver variability was low for delineation of the glandular tissue but high for the boost GTV. Coverage of the GBT-PTV by conventional fields was sub-optimal in 17 of 19 patients. Coverage of boost PTV by conventional fields will be studied. Improvement of dose homogeneity was indicated and realized by the use of CT-planning in 16 of 19 patients. Comparison of both radiation techniques regarding dose homogeneity in the target volume and normal tissue exposure, by DVH's, will be presented.

Conclusions: Conformal Radiotherapy in breast conserving therapy improves target coverage and enables the decrease of dose inhomogeneity. Interobserver variability with respect to the delineation of the boost is high.