350 POSTER

Utility of 3D-dynamic magnetic resonance (MR) mammography for detecting the extent of primary tumor and axillary lymph node status of breast cancer patients

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Purpose: Magnetic resonance (MR) imaging has been often performed for the diagnosis of breast cancer, recently. In our hospital, this modality has been used for more than 200 patients with suspected breast tumor since June, 1996. The purpose of this study is to determine if MR imaging can be useful to predict the extent of primary tumor and axillary lymph node status in patients with breast cancer patients.

Methods: MR imaging was performed with a 1.5-T imager (SIGNA HORIZON, GE medical Systems), with the patient in the prone position. Pulse sequence was 3D-fast SPGR (spoiled gradient recalled) imaging with fat suppression and maximum intensity projection. 3D-dynamic study was performed immediately after intravenous bolus injection of Gd-DTPA against the primary breast tumor with a breast coil and axillary lymph nodes with a special coil for axillar.

Materials: More than 200 patients suspected breast tumor were performed 3D-MR mammography. About 50 patients diagnosed by operation were studied.

Results: The sensitivity, specificity, and accuracy of this modality were 96%, 84%, and 84%, respectively. 3D-MR imaging was useful for detecting the intraductal spread and satellite lesion of the primary breast tumor. On the other hand, it was difficult to separate the difference between vessels and lymph nodes, and between metastatic lymph nodes and inflammatory ones.

Conclusion: It seems to be very important to determine the extent of primary breast tumor and axillary lymph node status for performing breast conservative surgery.

351 POSTER

A pathway for a woman: Global approach to breast cancer

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Purpose: The project "a pathway for a woman" offers to women living in the Health District #46 of Naples, Italy (60,000 women) a global approach to breast cancer by means of prevention, early diagnosis, treatment, and rehabilitation. This is accomplished by: 1) information and awareness on prevention and screening 2) outcome patients service for early diagnosis, treatment, and follow-up, according to Istituto Nazionale Tumori of Naples 3) nursey's training for psyco-social rehabilitation of breast cancer pts. 4) physician's training to promote breast cancer prevention programs. 5) data collecting in the District's register

Methods: between January 95 and December 97, 6000 women have been visited: 93 had breast cancer diagnosis, due to the collaborative work of Healt District, University and National Cancer Institute.

Results: no age-related significant differences were seen in the distribution of breast cancer in the sample population (45.3% of cancers were observed in <50 years women, and 41.9% in women 50–69 years). Early diagnosis was possible in 80.6% of cancers; 45.1% of these pts. received breast conserving therapy, and 54.8% had adjuvant chemotherapy. Overall remission rate is 85%; 9.7% of pts. is in progression.

Conclusions: our program aim was to facilitate the "women's pathway" to breast cancer diagnosis, reducing waitig time and improving quality of life according to preventio program of National Cancer Institute of Naples.

352 POSTER

In situ trap method for the histological examination of breast cancer (preliminary report)

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Purpose: There has been many reports till now concerning the telomerase activity of breast cancer which were the value of tissue extraction. But the locolization and distribution of telomerase in cancerous tissues, the finding of telomerase activity in borderline lesion and so on are quite difficult to be detected using the ordinary method. So we report our success in the clinical trial of checking the activities of telomerase for breast cancer using in situ TRAP method with fluorescent primer. (by Ohyasiki et. al.)

Material: The specimens consisted of 5 breast cancer cases and 1 fibroadenoma were frozen at −80°C preserving for using.

Method: In situ TRAP method with fluorescent primer were applied for cytology to check the activities of telomerase. The activities of telomerase were evaluated on slide glasses with primer through fluorescence microscope after PCR reaction. We compared these results with H.E. stain on continuos slices of specimens.

Result: The cells with positive telomerase activity were found local accumulation in breast cancer tissues. On the other hand, no positive telomerase activity was found in normal epithelium of ducts. Furthermore, of these 5 breast cancer cases, there were no difference of activities in histological types.

Conclusion: From our results in situ TRAP method was very effective for the detection of telomerase activities in the solid breast cancer which was preserved the histological structure as well as the advantage of detection in leukemia and Lymphoma.

353 POSTER

US guided fine needle aspiration biopsy of non palpable breast lesions

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Incidence of non palpable breast lesions has greatly increased in the last years in consequence of wide use of mammography and breast ultrasonography (US) in the screening of asymptomatic high risk women. It is often very difficult to spot these lesions during fine needle or surgical biopsies and so to confirm histologically malignant diagnosis of US and X-ray suspect lesions. The US guided or/and stereotaxic needle preoperative location allows to detect and to localize accurately occult breast lesions when FNAB is uncertain: US technique seems to prefer because of its low cost and quickness. From January 1993 to December 1997 a total of 145 patients (age 25–77, mean age 54.5) underwent US guided FNAB for non palpable breast lesions. In 22 patients (15.2%) the specimens were inadeguate and US guided needle localization using a 22 Gauge "Self-retaining Anchor Wire" with open biopsy was performed. This technique was also performed in the 21 patients (14.5%) with uncertain histological specimens. Success rate was 97.1%; missed lesions rate was 0.7%. 98 patients (67.6%) showed histopathologic benign changes; cancer was identified in 47 patients (32.4%): 34 were invasive carcinomas and 13 in situ. In conclusion US guided FNAB is an accurate and safe procedure to study non palpable breast lesions. In the uncertain cases we perform excisional biopsies with US guided needle localization, using stereotaxic needle mammography only in cases of US-negativity (29.5% in our experience).

354 POSTER

Diagnostic significance of nipple discharge for detection of non-palpable breast cancer

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Nipple discharge is one of the important symptom in breast disease. Especially in the abdence of a mass, nipple discharge is of significant for diagnosis. However, the diffinite diagnosis of non-palpable breast cancer was considered to be very difficult, because standard diagnostic method such as exfolliative cytology and ductography were not totally reliable.

The present study was undertaken to evaluate the diagnostic significance of CEA and NCC-ST-439 measurement in nipple discharge for detection of non-palpable breast cancer.

Materials: Among 192 patients with nipple discharge, 85 patients underwent microdochectomy between 1985 and 1997. Fifty three patients with palpable mass were served as control.

Methods: In addition to all mammary examination, CEA and NCC-ST-439 levels in nipple discharge were measured by the mean of enzyme immunoassay using monoclonal anti CEA or NCC-ST-439 antibody.

Results: The histologic diagnosis of 85 patients were carcinoma in 30 (35%), intraductal papilloma in 29 (34%) and other breast disease in 26 (31%). CEA and NCC-ST-439 levels in nipple discharge of breast cancer were significantly higher than those of other breast diseases. In the contribution assay of both CEA and NCC-ST-439, the sensitivity, specificity