

hormonotherapy; immunotherapy as appropriate). At 3 years follow-up, 66% of patients are still disease free and 97% alive.

In conclusion: our results are in the line of most recent reports dealing with the possibility to enhance pCR for (moderately) advanced early breast cancer with an association of anthracyclines and taxanes. This sequential protocol was, in our hands, better tolerated than our previously reported epirubicine-taxol schedule (Anticancer Res 2005, 1211–18) with no cardiac toxicity. **Keywords:** anthracyclines, taxanes, early breast cancer

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PUBLICATION

The clinical outcome of 1034 Chinese patients after adjuvant therapies for female breast cancer, Hong Kong AR, China

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Background: The benefits of adjuvant therapies in breast cancer are well established in western populations but there are few large reports on the clinical outcome in Chinese patients (pts). This retrospective review analyzed clinical endpoints of local control (LC), axillary control (RC), metastasis-free survival (MFS), overall survival (OS), and relapse-free survival (RFS) in such pts after either adjuvant systemic or loco-regional (LR) therapies or both. In our institute, local chest wall radiotherapy (RT) after mastectomy is indicated when T size is ≥ 4 cm, resection margin is ≥ 0.5 cm and lymphovascular permeation (LVI) is present. Regional lymph node (LN) RT is indicated when there are ≤ 4 involved axillary LN (LN+), extensive extracapsular invasion (EC) and inadequate number of LN dissected. Adjuvant chemotherapy is indicated when pts have LN+, T size > 2 cm or grade 3 histology. Classical CMF and Tamoxifen constituted the majority of adjuvant chemotherapy and hormonal therapy regimens.

Material and methods: 1034 pts with invasive breast cancer who had received adjuvant therapy from 1996 to 1999 were stratified according to age, T stage, resection margin status, LVI status, menopausal status, estrogen-receptor (ER) status, progesterone-receptor (PR) status, LN status and presence or absence of LN EC before analysis. Overall, 346, 551, 80, and 45 pts had stage T1, 2, 3, and 4 cancers respectively. Among those 90.5% pts with invasive ductal carcinoma, 42.6%, and 38.3% had histological grades 3 and 2 respectively. ER and PR positive tumors were found in 58.4% and 48.8% pts respectively. There were 52.7% LN+ pts. While 35.6% pts received LR, RT and 29.6% local RT only, 55% pts had chemotherapy and 58.4% pts hormonal therapy.

Results: The median age was 54.7 (range: 24–102) and 52.9% pts were menstruating at presentation. Menopausal pts had higher rate of LN+ and higher T stage ($p < 0.01$). At a median follow-up of 56 months, the 5 year LC, RC, MFS, RFS and OS rates were 95.4%, 98.2%, 80.1%, 78.6% and 83.2% respectively. Altogether, 48 (4.5%), 20 (1.9%) and 217 (21%) pts had local, axillary and systemic relapses respectively. Statistically significant prognostic factors for various clinical endpoints are tabulated as follows.

Clinical endpoints	Significant prognostic factors in multivariate analysis
LC	T stage, PR status, LVI status
RC	nil
MFS	Age, menopausal status, T stage, LN status, ER status, LVI status
RFS	Age, LN status, PR status, LVI status
OS	Age, menopausal status, T stage, LN status, tumor grade, LVI status

Conclusion: This report demonstrated in Chinese pts the clinical significance of LVI and other common prognostic factors. The local and axillary control rates were excellent but there was room for improvement in preventing distant metastasis and especially in older pts. The increased use of anthracycline-based chemotherapy after 1999 may improve the outcome of subsequent pt cohorts.

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PUBLICATION

The relationship between serum cholesterol level and axillary lymph node status in breast cancer patients

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Background: Estrogen is known to decrease total cholesterol and low density lipoprotein levels whereas it increases high density lipoprotein level. The aim of the study is evaluation of the association between serum total cholesterol level, tumor size and axillary status.

Material and method: In this retrospective study, 150 patients who underwent breast cancer surgery and adjuvant chemotherapy were

evaluated for axillary lymph node status, tumor size and serum total cholesterol level. Measurement of serum total cholesterol level within 3 months before or after cancer surgery was accepted as reference value. Body mass index (BMI) was calculated for all patients. None of them had hypothyroidism, hyperthyroidism, diabetes mellitus and alcohol abuse. Level above 200 mg/dL for serum total cholesterol was defined as hypercholesterolemia.

Results: Characteristics of patients are listed in Table 1. BMI was found significantly associated with age, menopausal status and total cholesterol level ($p = 0.0001$, $p = 0.012$, $p = 0.038$; respectively). There was no correlation between serum total cholesterol level and number of resected axillary lymph nodes ($p = 0.069$). Number of positive axillary lymph nodes was inversely correlated with serum total cholesterol level ($r = -0.189$, $p = 0.022$). Serum total cholesterol level was determined as an independent prognostic factor for evaluating number of positive axillary lymph nodes in multivariate analysis ($p = 0.01$). The relationship between high serum total cholesterol level and number of positive axillary lymph nodes is shown in Table 2 ($p = 0.05$).

Table 1: Characteristics of patients (median values)

Age (year)	51
Tumor size (cm)	3
Total number of resected axillary lymph nodes	17
Number of positive axillary lymph nodes	1
BMI (kg/m^2)	28.4
Serum total cholesterol level (mg/dL)	208
Premenopausal/postmenopausal (%)	56/44

Table 2: The relationship between serum total cholesterol level and number of positive axillary lymph nodes.

axillary Lymph node status (N)	Rate of high serum total cholesterol level (%)
0	61.9
1–3	72.2
4–9	59.1
≥ 10	38.5

Conclusions: Despite small number of patients in this study, we found an inverse correlation between serum total cholesterol level and number of positive axillary lymph nodes. The effect of BMI in breast cancer is known. But relation with total cholesterol level, axillary involvement and the effect on survive, should experienced by large number of studies.

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PUBLICATION

Diagnostic trends over 15 years in patients with breast cancer. Importance of having a computerised clinico-pathological database

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Introduction: To be able to conduct effectively a clinical or basic research study on cancer patients, an easy access to the maximum information of the patients is needed.

Objectives: To create a centralised computerised database from the clinical histories of breast cancer patients.

Design: Review of the clinical histories of all the patients with breast cancer diagnosed and treated at the 3 University Hospitals of Las Palmas de Gran Canaria, Canary Islands, Spain. From each clinical chart we collected more than 70 variables and arranged them in 5 major groups: antecedents, clinical diagnosis, anatomical and pathological diagnosis, treatment, and clinical course of the disease.

Results: Between Jun 2003 and May 2005, 2150 cases were incorporated into the database, corresponding to patients diagnosed after January 1975. Here we want to highlight 2 aspects about the variables behaviour during part of the diagnostic period: 1) the detection by mammography increased progressively from 9.6% in 1990–94, to 27.4% in 95–99, and to 53.9% in

00–04 ($p < 0.0001$); 2) the frequency of T1 also augmented gradually from 26.1% in 90–94, to 33.3% in 95–99, and to 44.8% in 00–04 ($p < 0.0001$).

Conclusions: Our results show that, during the last 15 years, the diagnosis of breast cancer has had a clear improvement in our community.

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PUBLICATION

Skin-sparing mastectomy with conservation of nipple-areola complex and immediate reconstruction is a safe procedure

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Background: Skin-sparing mastectomy (SSM) with immediate reconstruction has become popular with patients undergoing total mastectomy. Previous studies showed this procedure is safe and better aesthetic result. Recently preservation of nipple-areola complex (NAC) was tried and the risk of tumor involvement of NAC and local recurrence are issued.

Materials and methods: We reviewed clinicopathologic characteristics and complications of 79 cases of planned SSM with conservation of NAC and immediate reconstruction between July 1999 and January 2004 retrospectively.

Results: The median age was 37.4 years (22–57), mean tumor size was 2.2 cm (0.1–8.0) and mean distance from nipple to tumor was 2.1 cm (0–6.0). According to AJCC staging, 18 cases (22.8%) was stage 0; 27 cases (34.2%), stage I; 27 cases (34.2%), stage II; 5 cases (6.3%), stage III and 2 cases (6.3%) was malignant phyllodes tumor. According to reconstruction methods, 51 cases (64.6%) was TRAM; 24 cases (30.4%), direct implant; 4 cases (5.1%), tissue expander. All cases were performed intraoperative frozen section biopsy for NAC involvement of tumor and NAC was resected in 12 cases (15.2%) due to DCIS involvement. Only 1 case (1.5%) of preserved NAC, permanent pathologic report showed DCIS in resected margin of NAC. Partial necrosis of NAC was occurred in 11 cases (13.9%) and mean time of spontaneous recovery was 8.9 weeks (3–12). Asymptomatic pulmonary thromboembolism was occurred in 4 cases (6.0%). Postoperative implant infection was occurred in 2 cases (3.0%) and finally tissue expander was removed. During a mean follow-up of 15.0 months (4.1–71.0), no local and systemic recurrence were detected.

Conclusion: In patients who are candidates for total mastectomy and immediate reconstruction, SSM with intraoperative frozen section biopsy of the NAC offers the opportunity of NAC conservation. We conclude this procedure is safe and achievable satisfactory aesthetic result.

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PUBLICATION

Relationship between hormone receptor rate, CEA, CA 15–3 and MIB-1 in patients with breast cancer recurrence

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Background: Several tumor markers and risk factors have been investigated in patient with breast cancer (BC) for predicting recurrence and monitoring patients. The aim of this study was to analyze the correlation between estrogen (ER) and progesterone receptor (PgR) rate, serum tumor markers CEA and CA 15–3, MIB-1 proliferation index, and risk of BC relapse.

Patients and methods: Data regarding a series of 363 consecutive women with pT1–2 BC who underwent curative surgery and were followed-up for 24–120 months were reviewed. The following parameters were recorded: age (years), greatest diameter of the tumor (size, mm), ER and PgR rate, MIB-1 index (%), CEA (ng/mL) and CA 15–3 (U/L) serum levels. Two Groups of patients were considered: 1) Group A cases ($N = 62$, 17.1%, median age 55 years, range 35–83 years) with local or distant relapse, and 2) Group B controls ($N = 301$, 82.9%, median age 61 years, range 28–88 years) without relapse.

Results: In univariate analysis CEA, CA 15–3, MIB-1 index, and PgR values did not differ ($p = NS$) between Groups, whilst ER rate (65.7 ± 12.2 vs. 58.8 ± 17.1 ; $p = 0.003$) and size (24.3 ± 7.1 vs. 20.7 ± 10.2 mm; $p = 0.009$) were significantly different.

Overall, a linear relationship between CEA and CA 15–3 (Group A: $R = 0.43$, $p = 0.001$; Group B: $R = 0.21$, $p = 0.003$), and between ER and PgR (Group A: $R = 0.38$, $p = 0.002$; Group B: $R = 0.54$, $p < 0.001$) was found. In Group A patients there was a significant correlation between age and both CEA ($R = -0.47$, $p = 0.0003$) and CA 15–3 ($R = -0.46$, $p = 0.0007$), and between MIB-1 index and size ($R = 0.43$, $p = 0.0005$), age ($R = 0.36$, $p = 0.004$) and CEA ($R = -0.36$, $p = 0.004$). In Group B patients there was a

week correlation between size and both age ($R = 0.18$, $p = 0.001$) and PgR ($R = 0.20$, $p = 0.0004$).

Conclusions: Preoperative serum tumor markers CEA and CA 15–3, ER and PgR rate, and MIB-1 index are not useful in predicting the clinical outcome of patients with BC who underwent surgery.

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PUBLICATION

DCIS in core needle biopsy – an indication for sentinel node biopsy?

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Background: Ductal carcinoma in situ (DCIS) is nowadays a common finding in patients with screen detected breast cancer. There are no axillary metastases in DCIS, by definition. When DCIS is suspected in mammography, core needle biopsy (CNB) is recommendable to evaluate possible invasion. However, invasion remains undetected in 10–20% of the patients in CNB, because it represents only a minor proportion of the tumour. Tumour characteristics like high-grade histology, palpable mass, radiographic mass, suspicion of microinvasion, visibility in ultrasonography and extensive disease are found to have an elevated risk for invasion. We aimed to study the role of sentinel node biopsy (SNB) in the treatment of these patients.

Patients and methods: Between June 2001 and November 2004, screen detected DCIS lesions were detected in 79 female patients. The CNB-samples were reviewed by an expert breast pathologist and data were collected concerning the treatment of these patients. 67 of these had sufficient data and definite DCIS in CNB. SNB was performed to 27 (40%) of these.

Results: Surgical excision specimens revealed 47 (70%) pure DCIS lesions, 8 (12%) lesions with microinvasion and 12 (18%) invasive tumours. Axillary node metastases were found in 2 patients (4%) with pure DCIS, in one (13%) with microinvasive cancer and in two patients (17%) with invasive cancer. Of these metastases, only one was a macrometastasis, two were micrometastases and one was an isolated tumour cell-finding. Only visibility in ultrasonography was found to be a significant ($p = 0.006$) “high risk” factor; 13 (50%) of the 26 US-visualized tumours had invasive histology in the breast resection or mastectomy specimen. Comedo-type histology was found in CNB in 28 tumours and 12 (43%) of these turn out as invasive in ($p = 0.062$).

Conclusions: A substantial (18%) proportion of tumours diagnosed as DCIS by CNB have turn out as invasive cancers. In this study, only visibility of the tumour in ultrasonography was regarded as a “high risk” factor for invasiveness. These tumours are associated with an only small number of axillary metastases and SNB could therefore be helpful in the staging and treatment of such patients.

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PUBLICATION

Re-irradiation and hyperthermia after macroscopic complete resection for locoregional recurrent breast cancer in previously irradiated area

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Background: Subsequent local control after salvage treatment for locoregional recurrent breast cancer in previously irradiated area is generally poor. The cohort of 51 patients treated with macroscopically complete excision, re-irradiation and hyperthermia (RT/HT) in the Academic Medical Center from 1990–1998 was analysed.

Patients and methods: All 51 patients were previously irradiated to ≥ 50 Gy, and the majority had one or more lines of systemic therapy. The recurrence at stake was the first recurrence in 62% of patients. Time interval was < 2 years in 12% and < 5 years in 55% of patients. Recurrences were single in 42%, multiple in 25%, diffuse in 24% and ulcerating in 9% of patients. At start of RT/HT there was no macroscopically detectable tumour. This was achieved by minor surgery in 49%, by major surgery in 47% and by chemotherapy in 4% of patients. RT/HT consisted of 32 Gy/8 fractions/4 weeks, twice a week, and normally 4 (3–6) sessions of superficial hyperthermia with 434 Hz microwave antennas.

Results: Median survival of the entire group was 24 months. Fourteen patients (27%) suffered a subsequent locoregional recurrence, 5 of which only outfield. Actuarial local control stabilized at 20 months at 71%. Time interval to the current locoregional recurrence and original TNM classification were significantly predictive for subsequent local control. Severe late toxicity consisted of radiation ulcer (4) brachial plexopathy (3) and ribnecrosis (3).