

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.

**Research funding:** Instituto Canario de Investigación del Cáncer (ICIC) [Cancer Research Institute of the Canary Islands]

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### 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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### 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 ( $65.7 \pm 12.2$  vs.  $58.8 \pm 17.1$ ;  $p = 0.003$ ) and size ( $24.3 \pm 7.1$  vs.  $20.7 \pm 10.2$  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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### 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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### 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  $\geq 50$  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).