

Ductal carcinoma in situ of the breast: Evaluation of the treatment options

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From January 1978 to December 1994, 87 patients with ductal carcinoma in situ (DCIS) of the breast were observed at the Centro Oncologico of Trieste. 43/87 (49.5%) patients underwent mastectomy; 42/87 (48.2%) quadrantectomy and radiation therapy and 2/87 (2.3%) lumpectomy alone. The local recurrence rate was 3.4% (3/87 cases), with a median follow-up of 69 months. The 3 patients who relapsed had been treated by conservative surgery and radiation therapy; they had a salvage mastectomy and are alive and free of disease. The 15-year actuarial overall and disease-free survivals are 100% and 89.9% respectively. In our retrospective study the conservative treatment proved to be a good alternative to mastectomy in patients with DCIS.

Key words: breast neoplasms; ductal carcinoma in situ; treatment options; treatment outcome

Introduction

Ductal carcinoma in situ represents almost 15% of all breast cancer in the United States and almost 40% of those screening detected.¹

Historically, mastectomy has been the traditional treatment for DCIS.

Based on the success of conserving surgery in patients with early invasive breast cancer, this approach would appear to be a logical choice for treating DCIS. During the last decade, patients with DCIS have been accepted for conservative surgery with or without radiation therapy, and the results of several studies have already been published.²⁻⁵

In this study we have evaluated the results of treatment in patients with DCIS observed at the Centro Oncologico of Trieste from January 1978 to December 1994.

Patients and methods

From January 1978 to December 1994, 87 patients with DCIS of the breast were observed at the Centro Oncologico of Trieste; patients with synchronous or metachronous invasive carcinoma of the breast were excluded from analysis. The median age was 57 years (range: 31-84 years). All patients underwent preoperative mammography: 5/87 cases (5.8%) were detected only clinically; 51/87 (58.6%) clinically and by mammography, and 31/87 (35.6%) by mammography alone.

Mastectomy was performed in 43/87 (49.5%) patients; quadrantectomy and radiation therapy in 42/87 (48.2%) and lumpectomy alone in 2/87 (2.3%). All cases treated by conservative surgery had negative resection margins. All patients, except those treated by lumpectomy, underwent axillary dissection; in all cases lymph nodes were negative for metastatic involvement.

Patients who underwent quadrantectomy received postoperative radiation therapy at the Istituto di Radioterapia Oncologica of Trieste. They were treated with tangential fields delivered by a Cobalt Unit; the prescribed dose was 50 Gy in 25 fractions,

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followed by a boost of 10 Gy to the primary tumour bed with electrons from a Linear Accelerator. Since 1984, the treatment planning was performed on CT scans using a 2-D planning system.

Twelve patients were receiving hormonal therapy with tamoxifen for 5 years after surgery.

The follow-up schedule included clinical examination every 3 months for 3 years, every 6 months for the following 3 years, and later on once yearly; mammography was carried out once a year while other radiological and laboratory examinations were done only in specific cases.

Actuarial survival curves were calculated using the Kaplan-Meier method.

Results

The median follow up was 69 months (range 16-227 months).

Local failure occurred in 3/87 patients (3.4%) in the group treated with quadrantectomy and radiotherapy. Time from surgical treatment to relapse ranged from 9 to 85 months. These patients underwent salvage mastectomy and adjuvant therapy with tamoxifen (estrogen receptors were positive at the time of recurrence). They are alive and free of any distant failure or further local recurrence.

In our series, 15-year actuarial disease-free survival was 89.9%, and the overall survival was 100%.

Cosmetic results in patients treated by conservative surgery and radiotherapy were satisfactory.

Discussion and conclusions

The optimal management for the patients with DCIS remains controversial. Mastectomy cures almost all patients and is the standard by which other therapeutic options are measured.⁶

Recurrence rate after conservative surgery without irradiation is high: 23-75%,³ whereas in series using radiotherapy after conservative approach, local failure rates range from 4% to 10% at 3-5 year follow up.⁷

In the randomized study published by Fisher et al.⁸ the local control following lumpectomy with irradiation is higher in comparison with lumpectomy alone.

The majority of breast recurrences after conservative treatment occur near the original tumor

and approximately 50% are invasive.³ The outcome of salvage treatment must be regarded as an important issue in the treatment of DCIS because of the risk of local relapse. Virtually all patients who develop a non-invasive recurrence and almost 75% of those with an invasive recurrence are salvaged.³

The risk of axillary nodal metastases is very low⁴ and therefore axillary dissection is no longer recommended. In our series there were no nodal metastases in the patients who underwent axillary dissection.

The results of our retrospective study showed an incidence of relapse at 3.4% (3/87 cases) after quadrantectomy and radiotherapy; while there were no recurrences in the group treated with mastectomy. There was no difference, however, in the survival rate after salvage treatment. The conservative approach proved to be a good alternative to mastectomy in patients with DCIS. Ongoing randomized clinical trials comparing conservative surgery versus conservative surgery and radiation therapy are expected to add more information on the therapeutic approach and will clarify the optimal management for the patients with DCIS.

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