

The current treatment of ductal carcinoma *in situ* of the breast

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Ductal carcinoma in situ (DCIS) is a proliferation of presumably malignant epithelial cells within the ducto-lobular units of the breast without evidence by light microscopy of invasion through the basement membrane into the surrounding stroma. DCIS presents as a heterogeneous group of lesions with different clinical presentation, histologic features and malignant potential.

DCIS patients have an increased risk of developing an ipsilateral invasive breast cancer, generally within the same quadrant as the initial DCIS. Before the mammographic era the frequency of DCIS was 1-5% of all breast cancer, now DCIS represents between 15-25% of newly reported breast cancer diagnosis. For most of the 20 century the major of patients with DCIS were symptomatic, palpable mass or nipple discharge, bloody or serous. With development and utilization of high quality mammography during the last 20 years the number of new cases of DCIS is increased rapidly and presentation changes. Today most patients with DCIS present with non-palpable lesions (microcalcifications) and without symptoms. Percutaneous core biopsy with dedicated table represent the most important option to detecting DCIS. It is clearly less invasive, offers better cosmesis and is less expensive than open surgical biopsy.

Diagnosis of DCIS by core biopsy offers the opportunity for planning the treatment of choice for DCIS patients. The goal of treatment of DCIS is breast conservation with optimal cosmesis and a minimum risk of subsequent invasive or in situ recurrence. There are some for whom mastectomy remains the

optimal treatment but most women with DCIS are candidate for breast conservation.

A minority of patients with DCIS requires mastectomy, probably less than 25% but mastectomy could be performed if it were the patient's preference.

Breast conservation for DCIS implies:

- post excision mammographic control, this step could be avoided only if the specimen radiograph performed at the time of the initial surgery show that all the suspicious calcifications are well within the excised tissue and that the margins are widely clear macroscopically;
- radiation therapy, follow-up alone or tamoxifen is an optimal treatment.

Clinical trials have shown that local excision and radiation therapy in patients with negative margins provides excellent rates of local control. Patients treated by excision alone have greater chance of local failure.

The available data indicate that the likelihood of developing invasive cancer of the breast following breast conservation with or without radiation is approximately 1% or less for year following the initial diagnosis and treatment of DCIS. Although adding radiation therapy to wide local excision benefits all groups of DCIS patients the magnitude of that benefit may be small. However patients who may avoid radiation therapy have not been reproducibly and really identified by any clinical trials.

Clear surgical margins are a major criterion for treatment of DCIS (whether or not RT is employed). 10 mm margin represents the best compromise between removal of so much tissue that the cosmetic

result would be less than desirable and the likelihood of local recurrence. An axillary dissection is not required in patients with DCIS; the incidence of axillary metastases is so infrequent that this possibility should not provoke a therapeutic option to dissect the axilla.

The role of sentinel node biopsy is controversial. If, by definition, DCIS does not spread to lymph nodes, a procedure to address lymph nodes status should not be necessary.

The addition of tamoxifen, 20 mg daily decreases the incidence of both *in situ* or invasive cancer recurrence. No overall survival benefits were observed in patients with DCIS related any form of treatment.

In conclusion the treatment of DCIS is constantly being refined, and the observations and recommendations, made at any time may be influenced by new data reported almost contemporaneously as well as in the future.