

Letters

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Postmastectomy Radiotherapy, Axillary Lymph Node Dissection and Oestrogen Receptor Status Predict Prognosis

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BREAST CANCER accounts for 23% of cancers among females, and is the most frequent cancer in Norwegian woman. Breast surgery in northern Norway is performed at ten different hospitals. Postoperative radiotherapy in this region has been centralised to the University Hospital of Tromsø, Norway.

A retrospective study on 75 patients treated with postmastectomy radiotherapy for primary cancer between 1986 and 1993 is presented. Modified radical mastectomy was the standard operative treatment employed. Indications employed in stage I–III disease for postoperative radiotherapy were (1) margins not tumour free; and/or (2) metastasis in \geq four axillary lymph nodes. Added to these was a relative indication when patients with stage IV disease were considered as having a local problem prior to death of disease. Patient characteristics are as follows: T stage distributions, T1(14); T2(35), T3(18), T4(8); nodal status: N0(10), N1(64), N_x(1), M0(72); M1(3); oestrogen receptor status: ER[−](18), ER⁺(39), ER_x(18). The median age at diagnosis was 54 years (range 31–76), median delay from symptom to diagnosis was 2.63 months (range 0–67.9) and from diagnosis to mastectomy, 7 days (range 0–523). Axillary lymph node dissection was performed in all cases and a median number of eight lymph nodes were extirpated (range 3–20). Fifty surgeons performed the operations at nine different hospitals. Adjuvant hormonal therapy (tamoxifen or alternating tamoxifen/megestrol acetate) and adjuvant chemotherapy (CMF) was given routinely according to the guidelines from the Norwegian Breast Cancer Group (NBCG) [1]. Radiotherapy was administered by a linear accelerator. A three field technique and a daily fraction dose of 2 Gy, 5 days a week, up to a total dose of 50 Gy was employed. The median delay from mastectomy to radiotherapy was 49 days (range 21–96).

During a median follow-up period of 24 months (range 3–99), 27 patients relapsed. 15 patients died of progressive disease within 8–43 months (median 16 months) follow-up, giving a 5 year cumulative survival (Kaplan–Meier) of 67%. The relapsing

patients had a 5 year cumulative survival of 30% compared to 100% among the others. Relapse occurred within 3–41 months (median 10.5 months). 5 patients had recurrent disease within the irradiated field. One patient had local relapse only, while 26 patients had distant metastases. Recurrent disease was correlated to oestrogen receptor-negative (ER[−]) tumours ($P = 0.000$). 64% of the relapsing patients had ER[−] tumours compared to 11% in the non-relapsing group. Death from disease was related to relapse ($P = 0.0000$), and inversely related to the number of axillary lymph nodes examined ($P = 0.015$). Those alive had a median number of nine lymph nodes (range 3–20) extirpated, compared to five lymph nodes (range 3–14) among those dying of disease. Increasing tumour size was correlated to locoregional relapse ($P = 0.035$).

In this study, the results of mastectomy and postoperative radiotherapy in northern Norway during a 7 year period are shown. The estimated 5 year survival of 67% is in accordance with a study from Barcelona, Spain [2] reporting an overall 5 year survival of 72%. Patients with oestrogen receptor negative tumours were significantly more likely to relapse. Several studies have documented a significant improved survival with the use of tamoxifen [3, 4].

In the present study, the risk of death of disease was inversely correlated to the number of axillary lymph nodes examined. Kiricuta and associates [5] reported patients with greater than nine examined nodes having significantly better survival rates than patients with less than five examined nodes. This tendency can be counteracted by adjuvant chemotherapy [6]. Smith and colleagues [7] concluded that prognosis was related more directly to the total number of nodes involved than to the level of involvement. A correlation between locoregional relapse and tumour size was revealed in this study. Fisher and coworkers [8] concluded that, within each subgroup with positive axillary nodes, the size of the primary tumour was an independent prognostic factor.

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