

# LYMPH NODE INVOLVEMENT FOR BREAST CANCER

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Breast cancers are being diagnosed at an earlier and earlier stage, thanks to patient education which includes diligent breast self-examination as well as physician examination and routine mammography.

While in the past breast cancers were often diagnosed when quite large, in light of current technology and interest, more and more lesions are being diagnosed at an earlier stage. However, even for some small tumors there is a risk of lymph node involvement. Lymph node involvement generally would suggest a worse prognosis than no lymph node involvement.

A recently published study from the University of Chicago by Quiet et al in [the Journal of Clinical Oncology](#) would suggest that there is a good success rate for lymph node involved breast cancer patients.

Over the last twenty years, most women with lymph node involvement of breast cancer received adjuvant or additional chemotherapy in an attempt to improve outcome. Randomized studies have shown benefit from this approach.

In the study by Quiet et al, 501 women with breast cancer treated at the University of Chicago between 1927 and 1987 were analyzed. Tumor size was measured pathologically and lymph node involvement was determined by surgical procedure in all patients. In this study, all patients had mastectomies for purposes of analysis.

Advanced tumors invading the skin or underlying muscles were excluded from the study as well.

Of 501 breast cancer patients with lymph node involvement for analysis, 269 were without any evidence of recurrence at last contact. Average follow-up was 11.2 years. The age range of patients diagnosed with breast cancer was from 23 years to 91 years with a median of 52. Hormonal therapy as adjuvant treatment was used in 112 patients including the removal of ovaries in 90 and Tamoxifen, a currently-used estrogen in 28. Ninety-four patients received adjuvant chemotherapy including 48 patients receiving the currently available CMF or CAF regimen.

The authors noted that the patients with small tumors measuring 11 millimeters or less were less likely to have greater than three nodes positive and more likely to have only one positive node.

The authors further noted that tumor size - or the number of lymph nodes that contained cancer - was not an age-related phenomenon. Thirty-seven percent of patients 35 years of age or less had tumors less than 2 centimeters - the same percentage as in women over 50 years of age.

The authors divided patients by tumor size and found improved disease-free survival for patients with tumors less than 20 millimeters in size. Also, patients with one to three positive lymph nodes did better than those with four or greater involved lymph nodes.

There were 38 women with tumors measuring 10 millimeters or less who had lymph node involvement. Their 20-year disease free survival was 81%.

Of patients with 11 to 20 millimeter tumors, the 20-year disease free survival was 63%.

The authors noted that in T1 lesions defined as tumors less than 2 centimeters in diameter, "with fewer than four nodes positive, patients have the same favorable prognosis as similar sized node-negative cases."

What is impressive about the study is that women with lymph node involvement of breast cancer who, because of the long span of treatment and in general did not receive chemotherapy - did well when small tumors with few nodes were involved.

These same women would likely do even better today with the advent of modern chemotherapy techniques.

The authors note this "long-term outcome in node-positive breast cancer demonstrates that as tumor size increases so does the number of nodes that are positive. The time to recurrence was faster than that of node-negative breast cancer."

This means that early diagnosis, of course, is important. Women with early diagnosis are likely to have smaller tumors, less likely to have lymph node involvement and if lymph nodes are involved have fewer nodes containing cancer and this means a greater survival rate.

The authors note that "nodal status is the single most prognostic indicator in breast cancer." Other studies have shown that there is a relationship between tumor size and nodal status. The current study supports that.

Can women with lymph node involvement be cured of breast cancer? The answer is obviously yes and this study supports it. Identifying high risk patients allows the optimal therapy to be delivered with the best possible outcome.

Furthermore, today mastectomies need not be performed in the majority of patients with breast cancer. In fact, consensus meetings have supported that the optimal therapy is lumpectomy (or removal of the lump of breast cancer keeping the breast intact) followed by radiation of the breast so that the patient is left physically intact to the highest degree. Studies show at least equivalent survival for patients undergoing breast-conserving therapy - whether lymph nodes are involved or not.