

THE IMPACT OF NODAL ISOLATED TUMOR CELLS ON SURVIVAL OF BREAST CANCER PATIENTS

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Background: Isolated tumor cells (ITCs), often detectable only with immunohistochemical techniques, have an unknown significance in the prognosis of breast cancer. In contradistinction to micrometastases (0.2mm to 2mm in diameter), which are defined as N1 disease in the most recent AJCC guidelines, ITCs are not considered to represent metastatic nodal burden. Such patients are currently classified as N0 (i+), to denote that tumor cells are seen with immunohistochemical techniques. However, the clinical relevance of ITCs has yet to be fully defined with variable implications in studies to date. We sought to further elucidate the impact of ITCs on breast cancer survival.

Methods: We conducted a retrospective review of all women with breast cancer between 1996 and 2005 at Madigan Army Medical Center, a tertiary referral center. Of 514 patients, we identified 16 women with isolated tumor cells detected with immunohistochemical staining, but not visible on hematoxylin and eosin staining. Survival and disease free survival of these women were then compared to historical survival rates for women with node free disease.

Results: The 16 women with N0 (i+) disease had a median modified Bloom-Richardson Score of 6.5/9, the average tumor size was 2.2cm, and 12 (75%) were estrogen receptor or progesterone receptor positive. Four patients underwent ALND, either as part of the initial procedure or a subsequent one. 8 women (50%) were treated with chemotherapy, 5 (31%) were treated with radiation therapy, and 12 women (75%) – those with ER/PR positive tumors – were treated with hormonal therapy. There was no documented recurrence among these 16 women, with an average follow-up of 2.5 years.

Conclusions: Our data suggests that isolated tumor cells detected in lymph nodes do not adversely impact survival or disease-free survival when compared to women with node negative disease. Larger studies will likely be required to confirm these findings.