

## Evaluation of Local Recurrence of Breast Cancer after Mastectomy and Breast Preservation Therapy

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### Abstract

**Introduction:** Breast cancer is the most common cancer among women. Even though mastectomy is known as a highly effective method to treat breast cancer, the percentage of patients with local recurrence is still high.

**Objective:** To determine the incidence of local recurrence after mastectomy and breast preservation surgery.

**Materials and Methods:** Patients with breast cancer that underwent mastectomy and breast preservation treatment between 2006-2015 in the hospitals affiliated to Babol University of Medical Sciences were enrolled in the study. The required information including patient's age, stage of cancer, lymph node involvement, tumor size, type of tumor and tumor grade and local recurrence were entered into the checklist.

**Results:** A total of 100 patients undergoing mastectomy and breast preservation treatment were studied. This was a cohort study and the patients were tracked for an average of 43.2 months, of which 6% involved local recurrence. In this study, the type of breast cancer was found to have a significant correlation with local recurrence. No relationship was found between other variables such as age, tumor size, tumor grade, and lymph node involvement.

**Conclusion:** It can be suggested that local recurrence of breast cancer after treatment is an important event and the presence of risk factors, such as breast cancer type, requires more precise surgical techniques and more reliable tracking methods.

**Conflict of interest:** non declared

**Key words:** Breast Neoplasms \ Mastectomy \ Recurrence \ Risk factors

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## Extended Abstract

**Introduction:** The chance of women having invasive breast cancer during their lifetime is 1 in 8 (13% of women) and the chance of breast cancer being the cause of death is 1 in 33 (3%)(1). Breast conservation surgery and mastectomy are the most commonly used treatment options for breast cancer(2). A Highpercentage of patients have local recurrence after surgery. There are two main hypotheses about the origin of local recurrence: one is that the local excision of the tumor was not complete and another that local recurrence could be the first sign of the cancer spreading(3).

**Objective:** This study aimed to investigate the incidence of local recurrence of breast cancer after mastectomy and breast conservation treatment and some factors affecting local recurrence such as age, type of cancer, stage of disease and lymph node involvement.

**Materials and Methods:** Patients with breast cancer that underwent mastectomy and breast preservation treatment between 2006-2015 in the hospitals affiliated to Babol University of Medical Sciences were enrolled in the study. All patients underwent mammography or ultrasound and biopsy preoperatively and breast cancer was confirmed. Exclusion criteria included: finding other than breast carcinoma during surgery (fibroadenoma, mastitis), lack of access to patients for follow-up, patient death, and lack of access to patient records. All surgeries were performed by a surgeon and the procedure was either mastectomy or breast preservation. Routine follow-up examinations for patients included: examination of both breast and armpits and radiography including sonography and mammography. Patients with respiratory symptoms such as cough or shortness of breath and bony

symptoms with bone pain and motor impairment were advised to perform a lung and bone scan to evaluate distant recurrence. The required information including patient's age, stage of cancer, lymph node involvement, tumor size, type of tumor and tumor grade and local recurrence were entered into the checklist.

**Results:** A total of 100 patients consisting of 96 patients undergoing mastectomy and 4 cases with breast preservation treatment were studied. The minimum age of patients was 27 years, and the maximum was 80 years, with the mean age of  $50.78 \pm 11.92$  years. 10 patients (10%) had a family history of breast cancer in first and second degree relatives and the remaining 90 patients (90%) had no family history. 97% of patients had chemotherapy and 87% had radiotherapy. In this cohort study, patients were followed for an average of 43.2 months. During follow-up, 6% of patients had local recurrence of breast cancer and 30% had metastases to other parts of the body, 29% of patients died due to the disease. As revealed, the type of breast cancer had a significant correlation with local recurrence. No relationship was found between other variables such as age, tumor size, tumor grade, and lymph node involvement.

**Conclusion:** The results of this study showed that the incidence of local recurrence after breast cancer surgery with a 6% incidence is not uncommon and should not be neglected. The main risk factor for local recurrence of breast cancer obtained from this study may be the type of tumor histology. A greater proportion of people with invasive lobular carcinoma develop local recurrence. It is recommended that patients with invasive lobular carcinoma in biopsy should undergo appropriate surgery and be under close follow-up after surgery.

## References:

1. Feigelson HS, James TA, Single RM, Onitilo AA, Aiello Bowles EJ, Barney T, et al. Factors Associated With the Frequency of Initial Total Mastectomy: Results of a Multi-institutional Study. *Journal of the American College of Surgeons*. 2013 May;216(5):96-7. PubMed PMID: 23490543. PubMed Central PMCID: 3678356.
2. Havenga K, Welvaart K, Hermans J. Significance of local Recurrence After Mastectomy for Breast Cancer. *Surgical oncology*. 1992 Oct;1(5):363-9. PubMed PMID: 1341272.
3. Schwaibold F, Fowble BL, Solin LJ, Schultz DJ, Goodman RL. The Results of Radiation Therapy for Isolated local Regional Recurrence After Mastectomy. *International journal of radiation oncology, biology, physics*. 1991 Jul;21(2):299-310. PubMed PMID: 2061107.