

## Complete Pathologic Response after neo-adjuvant Chemotherapy in Breast Cancer and Its Effective Factors: A Single-center Study

**Hoda Tafazzoli Harandi:** Breast Diseases Department, Breast Cancer Research Center, ACECR, Iran

**Asiyeh Olfatbakhsh:** Breast Diseases Department, Breast Cancer Research Center, ACECR, Iran

**Safa Najjar Najafi:** Breast Diseases Department, Breast Cancer Research Center, ACECR, Iran

**Parisa Hosseinpour:** Breast Cancer Research Center, ACECR, Iran

**Parisa Mokhtari Hesari:** Cancer Quality of life Department, Breast Cancer Research Center, ACECR, Iran

**Esmat Alasadat Hashemi:** Breast Diseases Department, Breast Cancer Research Center, ACECR, Iran

**Corresponding Author:** Asiyeh Olfatbakhsh, Folfatbakhsh@yahoo.com

### Abstract

**Introduction:** Neo-adjuvant chemotherapy is the standard treatment for patients with locally advanced breast cancer which can be used to achieve negative margins in surgery and increases the possibility of breast conservation. Several studies have shown that pathological complete response to neo-adjuvant chemotherapy increases survival rate. The aim of this study was to evaluate the rate of complete pathologic response and its effective factors in patients with breast cancer who were referred to the Breast Cancer Research Center.

**Method:** In this cross-sectional study patients with stage I to III of breast cancer were included who had received neo-adjuvant chemotherapy in breast cancer research center between 1376 to 1392. Cases with complete pathologic response defined as cases which there is no tumor residue in the breast and axilla. This group of patients was compared with the patients who had residual tumor at pathology. Data were analyzed by descriptive and inferential statistics using SPSS 19.

**Results:** overall 179 patients were enrolled in the study. The patients' mean age was 45.4.73% of patients had received the chemotherapy regimen with Taxanes. 34patients (19%) were identified in the complete pathologic response group and 145 patients (81%) were identified in partial response or no pathologic response group. Significant differences were not observed between the two groups with respect to their age, menopausal status, family history of breast cancer, tumor size, tumor histology, estrogen and progesterone receptor, Her-2 neu and phenotypic type. However ki67 index was significantly different between the two groups ( $p=0.013$ ) So that in the patients who had Ki67 more than 40, complete pathologic response was more observed.

**Conclusion:** Based on the results of this study, among the demographic, clinical, pathological and therapeutic factors of this survey, Ki67 can be a predicting factor of pathologic response after neo-adjuvant chemotherapy.

**Keywords:** Breast Cancer, neo-adjuvant Chemotherapy, Complete Pathologic Response, ki67 index.