

Evaluation of the Predictive and Prognostic Role of Bcl2 in Non-Metastatic Locally Advanced Triple-Negative Breast Cancer Patients: A Clinicopathologic and Immunohistochemical Study

Asmaa E^{1*}, Hanan S¹ and Dareen M²

¹Department of Oncology, Tanta University, Egypt

²Department of Pathology, Tanta University, Egypt

Breast cancer is considered to be a common malignancy and the second most common leading cause of cancer death in females. So, continuous researches for new prognostic markers which will aid in therapy is mandatory. Bcl2 has been associated with estrogen receptor positivity and good prognosis in breast cancer. However contradictory data have been reported in several studies concerning the role and the prognostic impact of this marker in triple-negative breast cancers (TNBCs). The aim of this work is to study the expression of Bcl2 in locally advanced non-metastatic TNBCs and to correlate these data with clinicopathologic findings and patient disease free survival (DFS) to assess its prognostic significance. In addition to evaluate the role of Bcl2 as a surrogate predictive marker of response to neoadjuvant chemotherapy.

Patients & Methods: Paraffin blocks obtained from 61 female patients with non-metastatic locally advanced invasive TNBCs were analyzed for Bcl2 immunohistochemical expression. All patients treated by neoadjuvant chemotherapy (NAC), with a sequential regimen containing anthracycline and taxanes -based regimen at Clinical Oncology Department, Faculty of Medicine, Tanta University Hospital during the period between January 2009 and December 2014.

Results: The study included 61 female patients with non-metastatic locally advanced TNBCs. BCL2 showed positivity in 29 cases (47.54%). BCL2 was inversely correlated with response to neoadjuvant chemotherapy ($P = 0.005$). Tumor grade showing a border line significant correlation with it, with a higher frequency of grade III cancers being BCL2 negative ($p = 0.0598$). There was no statistical significance when looking at the correlation between BCL2 positivity and tumor size, ($p = 0.807$), nodal status ($p = 0.948$), age ($p = 0.933$), as well as lympho-vascular invasion ($p = 0.705$). The 1 year, 2 year, and 3 year DFS for patients whose tumors are positive for BCL2 without residual disease after neoadjuvant chemotherapy was 92 %, 81% and 70% compared to 91%, 80% and 65% for the women with BCL2 negative tumors, respectively. ($P = 0.799$). The 1 year, 2 year, and 3 year DFS for patients whose tumors are positive for BCL2 with residual disease after neoadjuvant chemotherapy was 95 %, 79% and 70% compared to 85%, 53% and 40% for the women with BCL2 negative tumors, respectively. ($P = 0.12$).

Conclusion: In TNBC patients, adding Bcl2 to the panel of markers used in current clinical practice could provide prognostic and predictive information. Bcl2 appears to be potentially useful marker of good prognosis in patients with non-metastatic locally advanced TNBCs who had residual disease, with a sequential regimen containing anthracycline and taxanes -based regimen and can be used to detect cases with aggressive biological behavior that can benefit from more aggressive therapy.

Key words: Bcl2, Triple-negative breast cancer, Clinicopathologic Study, Immunohistochemical Study.

Biography:

Asmaa Mohamed Elkady is MD of Clinical Oncology 2015 Lecturer of Clinical Oncology at Faculty of medicine, Tanta University, Egypt – Cairo.