World Cancer 2020: Bcl-3 gene expression in metastatic breast cancer patients- Arta Fejzullahu, Marmara University, Turkey

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Abstract

Bcl-3 is a proto-oncogene candidate that plays a critical role in the regulation of transcription activation of NF-kB target genes. Studies demostrate that Bcl-3 is involved in metastasis formation. In this line, our study aims to delineate the expression level of Bcl-3 gene and its interacting partners (TGF-β1 and SMAD3) in metastatic breast cancer patients.

25 metastatic breast cancer patients and 25 healthy control donors were included in the study. The study was approved by the Ethics Committee (No: 09.2019.204) and supported by Marmara University Scientific Research Projects Coordination Unit under grant number SAG-C-DRP-120619-0222. 45% of metastatic patients were de novo metastatic and were receiving chemotherapy. Expression profile of target genes was detected by qPCR technique. To evaluate the results of expression levels the SPSS program was performed. Difference was considered statistical significant at $p < .05$.

Bcl-3 expression level was found significantly downregulated in metastatic breast cancer patients compared to the expression level of healthy controls ($p = .000$). On the other hand, neither TGF-β1 nor SMAD3 expression showed statistical difference between two groups ($p = .276$ and $p = .259$, respectively).

In this study, downregulated expression of Bcl-3 gene may present an important clinical biomarker for early detection of metastasis. Furthermore, because our patients were already receiving chemotherapy, we think that chemotherapy might affect the expression level of Bcl-3. Consequently, further studies in large scale are needed to understand the exact role of Bcl-3 together with other interactive partners in breast cancer metastasis detection.

Biography:

Arta Fejzullahu graduated from Istanbul Technical University, Department of Molecular Biology and Genetics in 2008 and earned her master's degree on Molecular Biology & Genetics and Biotechnology Program from the same university. She continues her doctoral studies at Marmara University Faculty of Medicine, Department of Medical Biology & Genetics and has been a lecturer at Istanbul Aydin University since 2014. Her main research areas are metastatic breast cancer, pharmacogenomic and epigenetic biomarkers.

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