Katerina Bouchalova et al., J Clin Exp Pathol 2016, 6:3 (Suppl)
http://dx.doi.org/10.4172/2161-0681.C1.026

BCL11A gene and BCL2 protein in prediction of survival in triple-negative breast cancer treated with anthracycline-based adjuvant chemotherapy

Katerina Bouchalova, Marek Svoboda, Gvantsa Kharaishvili, Jana Vrbkova, Rastislav Slavkovsky, Jan Bouchal, Jiri Navratil, Vladimira Koudelakova, Radek Trojanec, Karel Cwiertka, Marian Hajduch and **Zdenek Kolar**
Palacky University, Czech Republic

The prognosis of triple-negative breast cancer (TNBC) is poor and patients cannot benefit from targeted treatment. Moreover, validated predictors for chemotherapy sensitivity are not available for TNBC. *BCL11A* transcription factor has been recently described as an oncogene in TNBC with critical functions in stem and progenitor cells. The objective of our study was to determine whether *BCL11A* gene and BCL2 protein status predict therapy sensitivity in TNBC patients. Fresh-frozen tumor tissues were collected from 148 TNBC patients. Genomes of these samples were profiled by Affymetrix SNP6.0 arrays and BCL2 protein was assessed by IHC. TNBC patients with *BCL11A* deletion treated with anthracycline-based chemotherapy had worse outcome (breast cancer specific survival, BCSS, logrank p=0.017; relapse free survival, RFS, logrank p=0.021) than those with normal or amplified status. Multivariate analysis found *BCL11A* as an independent predictor of BCSS and RFS in TNBC treated with anthracycline-based adjuvant chemotherapy. This is the first study showing *BCL11A* copy number status as independent predictor of outcome in TNBC treated with anthracycline-based chemotherapy. High levels of BCL2 expression predicted poor overall survival (OS) in basal-like TNBC patients treated with adjuvant anthracycline-based regimens (log-rank p=0.033). Multivariate analysis for TNBC and its basal-like sub-group identified BCL2, tumor size and nodal status as independent predictors for RFS, BCSS and OS. *BCL11A* oncogene deletion was paradoxically found as a negative predictive factor for anthracycline-based chemotherapy, similarly as BCL2 high protein expression. *BCL11A* copy number and BCL2 protein could facilitate decision making on adjuvant therapy.

Biography

Katerina Bouchalova has received her MD and completed her PhD from Palacky University. She is a Physician and Senior Researcher at Institute of Molecular and Translational Medicine, Palacky University. She has published 19 original investigations and review articles, mostly on breast cancer.

bouchalova@seznam.cz

Notes: