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Genomic and Proteomic evidences of BPA involvement in Breast Cancer

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Bisphenol A (BPA), one of the most pervasive endocrine disrupting chemicals, has been suspected as a risk factor for women's breast cancer. However, its risks and mechanisms for breast cancer are not clearly clarified, yet. Recently, we found several BPA responsive protein biomarkers, i.e. apo A1, DPPIII, VAT1 and SET, with proteomic analyses. Therefore, we studied associations among BPA exposure, breast cancer, and *apo E* and the above BPA-response genes in Korean women (N=150: cases=100, controls=50: range of age, 25-81 yrs: mean, 48.9 yrs) to find evidences of BPA risks on breast cancer. As results, we confirmed that *apo A1* and *SET* were differently expressed between breast cancer patients and controls. In addition, the patients showed higher expressions of *apo A1* and *apo E* in PR (+) subjects than those in PR (-) subjects. Moreover, expressions of *apo A1, apo E* and *SET* were positively related each other in the patients. Considering roles of the BPA response proteins/genes, our results suggest that BPA accelerates breast cancer via immune-mediated disorders, or high susceptibility to cancer by inflammatory pathways. However, specific mechanisms of BPA on breast cancer risks should be further studied with systems-biological approaches including various interactions among BPA-responsive proteins.

Biography

Mihi Yang has completed her Ph.D. at the age of 35 years from University of Occupational and Environmental Health, Japan and postdoctoral studies from NCTR/FDA, AR and MD Anderson Cancer Center, TX. She has D.A.B.T. (diploma of American Board of Toxicology) since 2003 and is an associate professor at Sookmyung Women's University College of Pharmacy. She is members of AACR and SOT. She has published more than 45 papers in reputed journals and serving as a scientific adviser of Korean FDA.