

High serum iron and zinc decrease glutathione S-transferase among women with breast cancer

Title	High serum iron and zinc decrease glutathione S-transferase among women with breast cancer
Author Order	3 of 3
Accreditation	2
Abstract	<p>BACKGROUNDBreast cancer in Indonesia ranks second as the most common cancer found in women after cervical cancer. Tumor cells express increased levels of antioxidant proteins to detoxify reactive oxygen species (ROS). Glutathione S-transferase (GST) is known to play a key role in the detoxification and reduction of ROS. Trace elements have nutritional benefits as essential cofactors for physiologic processes, but some can be toxic to humans. Accumulated evidence suggests that deficiency or excess of certain trace elements may be associated with risk of chronic diseases including cardiovascular diseases, diabetes and cancer. The aim of this research was to determine the correlation of the trace elements iron and zinc with the oxidative stress level of GST activity in women with breast cancer.</p> <p>METHODSAn observational analytic study with cross sectional design was conducted involving 35 breast cancer women. Research subjects were women with breast cancer diagnosed by biopsy. Measurements of iron and zinc levels were performed using atomic absorption spectrometry, GST activity was measured using spectrophotometry. Data analysis was done with the Pearson correlation test.</p> <p>RESULTSThe results showed that there was a significant relationship of serum iron with GST ($r=-0.487$; $p<0.05$) and serum zinc with GST ($r=-0.409$; $p<0.01$).</p> <p>CONCLUSIONOur study demonstrated that the higher zinc and iron level, the lower GST level among breast cancer women. It is recommended to use zinc, iron and GST levels as biomarkers for breast cancer and its progression.</p>
Publisher Name	Faculty of Medicine, Trisakti University
Publish Date	2018-02-22
Publish Year	2018
Doi	DOI: 10.18051/UnivMed.2018.v37.25-30
Citation	1
Source	Universa Medicina
Source Issue	Vol 37, No 1 (2018)
Source Page	25-30
Url	https://univmed.org/ejurnal/index.php/medicina/article/downloadSuppFile/509/60
Author	dr DIAH KRISNANSARI, S.Ked, S.Ked, M.Si