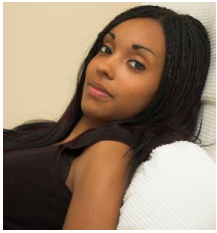


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By: Stefan Anitei, Science Editor



How Does the Stress Harm the Boobs?

A possible pathway discovered

This life-threatening danger touches women's health and femininity. In many western countries, breast cancer is already the leading type of cancer. The gradually increasing number of breast cancer cases in the last decades can be explained through a series of factors, like the growing obesity, higher alcohol consumption, the fact that few women nowadays breast-feed their newborn children and others. Stress has been found by some researches to increase the risk even by 30%. A new research published in the journal "Genes, Chromosomes and Cancer," and made at Queen's University, may have discovered for the first time a possible biological pathway of how severe psychological stress boosts the risk of developing breast cancer. The stress hormone hydrocortisone appears to hamper the activity of a tumor-suppressing gene called BRCA1. "The results of this particular study are very exciting. This provides a strong incentive to rethink treatment strategies," said lead researcher Dr. Christopher Mueller. BRCA1 is involved in an array of key cellular processes, like the repair of damaged DNA and the control of cell death. On cultured mouse cells, the research team discovered that continuous exposure to hydrocortisone induced a lower expression of BRCA1. "By disrupting BRCA1's normal activity, hydrocortisone may impede the ability of breast cells to maintain genomic stability and suppress transformation into a cancerous form," said Mueller. Shifts in the activity of BRCA1 are already known to be involved in some types of breast cancer. Mutations to the BRCA1 cause a large percentage of the inherited breast cancers, while low activity of BRCA1 is known to be the source of various sporadic cases of the malign breast tumors. "The knowledge gained through this research may help us identify genetic and biological markers that could tell us whether an individual woman is at increased risk of breast cancer due to stress. If we can develop a method of pinpointing those who may be particularly susceptible to the effects of hydrocortisone, we may be able to support them in taking steps to reduce their risk," said Mueller.