

## Etiology of breast cancer in patients with earlier reproductive surgeries

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Our hypothesis is that determining the association between plasma hormones, hormonal receptor status, and effect of reproductive surgeries may provide an insight into the etiology of breast cancer. Blood samples were collected from 250 postmenopausal females, (150 cases, 100 controls) after obtaining informed consent. Plasma estradiol and progesterone levels were estimated. Epidemiological data was collected by interviewing using an appropriate questionnaire. ER/PR status, type stage and grade of breast cancer determined, demographic factors, reproductive surgeries like tubectomy and hysterectomy obtained by interviewing.

**Results:** Cases with elevated serum estrogens levels were 60%, and elevated serum progesterone levels were 80%. Cases with elevated serum estrogen as well as progesterone and ER+PR+ were 45.4%. In controls the percentage of serum estrogen was 6.06% and serum progesterone was 9.09%. Breast cancer cases with ER+PR+ was 42% and with ER+PR- were 6%, with PR+ ER- were 2%, and with PR- ER- were 46%. Breast cancer cases with tubectomy were as high as 72% and with Hysterectomy 24%. Levels of endogenous sex hormones are strongly associated with breast cancer in postmenopausal women. Excessive circulation of serum sex steroid hormones may also be associated with risk of ER+, PR+ breast cancer because estrogens readily diffuse across the cell membrane.

**Conclusion:** We found a statistically significant association between breast cancer and the elevated levels of both estrogens and progesterone, hormonal receptor status and the reproductive surgeries before menopause. In control population it is important to note that reproductive surgeries and elevated levels of serum estrogen and progesterone levels might contribute to the risk of developing breast cancer in the future.

### Biography

Kaiser Jamil is a well known Scientist having published more than 250 papers and guided 25 scholars for Ph.D. degree. During the last decade following her instincts, she has taken up several projects related to human health, for 'War against Cancer' she has contributed in the field of Biomarkers in Breast cancer, Leukemia, and Head and Neck cancer. Her work on SNPs of drug metabolizing genes in cancers has been published in peer reviewed journals, unfolding the mechanisms of several genes and other genes which network with these genes, elucidated Drug-Gene interactions. She has also contributed on the role of some signalling pathways such as tyrosine kinase inhibitors (TKI) and MAPK in hematological malignancies and HNC.

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