Preventing breast cancer through hormones and diet

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A breast cancer cell originates due to accumulation of many mutations in regulatory genes. The size of breast cancer at detection may vary due to differences in breast density. There is a considerable pool of occult breast cancers. Tumors with a slow growth rate may only be detected by special autopsy studies in women dying from unrelated causes.

Estrogens only are associated with a significant 23% reduction in breast cancer incidence in the WHI study. This was not found in the E3N study. The increase in apoptosis after a period of estrogen deprivation may explain the observations in the WHI study.

SERMs have a proven breast cancer preventive influence, even though high intracellular levels of estradiol in the breast cell itself are detected in women taking these medications. The combination of a SERM (bazedoxifen) with estrogen seems an interesting option. It may combine breast cancer prevention with adequate symptom relief.

In women taking fyto estrogens we were able to detect 40 times higher levels of fyto-estrogens than these of 17 β-estradiol in breast epithelial cells. Since fyto-estrogens have a high affinity to bind to the β-estrogen receptor, they may mimic a preventive SERM effect.