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Breast cancer: Nobel role of endogenous sex hormone

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The age-incidence relationship, demonstrating the rapid increase in breast cancer incidence during a woman's reproductive years. A woman's cumulative exposure to estradiol, the most biologocal active of the circulating estrogens, and progesteron during ovulatory menstrual cycles are key exposures related to breast cancer risk. During ovulatory menstrual cycles, estradiol is low in the early folicular phase, peaks miscycle at the time of ovulaion and then, although it declines somewhat in the luteal phase. The amount of estradiol that is available to enter brest epithelial cells is governed by the amount and binding affinity of circulating sex-hormone binding globulin (SHBG), which binds about 98% of plasma estradiol. Yet the amount of bioavailable (non-SHBG-bound) estradiol is highly correlated with the total concentration of estradiol. SHBG has greater binding affinity for testoesteron tha for estradiol; hence SHBG binding capacity is also related to the amount of circulating testoesteron. Progestins used in hormone replacement therapy are breast mitogens; this suggests that endogenous progesteron level may also be related to risk, but progesteron levels in premenopausal women do not report whether measurement was restricted to ovulatory cycles. Breast cancer is increased among women who is taking combined hormone therapy (estrogen plus a progestrin). One analysis does show a 34% reduced breast cancer risk among post-menopausal women in intermediate quintiles. Circulating SHBG levels are strongly related to level of this protein, levels also increase among women taking conjugated equine estrogen as estrogen replacement therapy.

Biography

Deepak Singh Bais is a medical student in Tongji Medical College, HUST. He has published several papers in International Journals. He is a member of American College of Physcian, USA, International Society of Infectious Disease, USA and World Association of Young Scientists.

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