

## **S27. Endogenous Hormones and Breast Cancer Risk**

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Over the past decade, several prospective cohort studies have examined the relation between serum concentrations of ovarian steroid hormones and breast cancer (BC) risk. For postmenopausal women, the studies have shown a consistent positive association of serum estrogen and androgen levels with the risk of the disease. In premenopausal women there is new evidence indicating that in particular serum androgens are associated with breast cancer risk while serum progesterone may have a protective role. Such endocrine profile, characterized by elevated androgens and estrogens (and by low progesterone in premenopausal women), may develop as a result of chronic hyperinsulinemia.

Recent epidemiological data indicate that impaired glucose metabolism and chronic hyperinsulinemia are

endogenous risk factors for BC. Insulin might play a role in this process through mitogenic effects on breast epithelium. Furthermore, insulin modulates an additional proliferative and hormone-regulating factor that is likely involved in the etiology of BC: Insulin-like Growth Factor I (IGF-I). In line with the role as risk factor for primary BC, clinical and epidemiological data suggest that serum insulin and testosterone are also strong predictors of breast cancer recurrence.

This presentation describes new epidemiological data about the association of hormones with BC risk and recurrence. In addition, it will suggest future research perspectives on hormones and BC with specific emphasis on the application of hormonal biomarkers in the design and conduct of chemoprevention trials.