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Symposium: Breast Cancer Risk from Hormonal Treatment

Special countercurrent lecture

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Title: Estrogens protect against breast cancer and can be used in selected cases for the treatment of breast cancer

Estrogens have a bad reputation in relation to breast cancer (BC) and hormone replacement therapy (HRT) has been blamed to increase the risk of BC.

However, the Women's Health Initiative (WHI) studies have confirmed many earlier observations, that it is not the estrogen, but the progestin, that causes the increased risk, whereas estrogen-only treatment decreases the risk of BC.

Estrogens are known to stimulate the growth of existing estrogen-receptor positive breast cancer, but estrogens are also an effective treatment of this malignancy. This contradictory knowledge is known as the "estrogen paradox". The data summarised in this presentation demonstrate that high-dose estrogens are an effective treatment of advanced breast cancer, both as first-line treatment as well as for treatment after the occurrence of resistance to endocrine anti-estrogen treatment with tamoxifen (TAM) and/or aromatase-inhibitors (AIs). Essential for efficacy is an extended period of estrogen deprivation before the tumour is subjected to estrogen treatment (the "gap hypothesis"). Research on the mechanism of action has shown that apoptosis induced by estrogens is regulated via the estrogen receptor and growth factor signalling pathways. High-dose estrogens have a negative safety image in terms of side-effects and increased rates of cardiovascular disease, but the safety data from the literature do not give rise to major concerns.

Conclusion: taking into account the observed clinical efficacy and the side-effect profile, high-dose estrogens should be considered as a valuable alternative before the use of chemotherapy in selected patients after failure of TAM and/or AIs.