Aromatase inhibitors and inactivators in breast cancer reviewed

Aromatase inhibitors and inactivators, potent inhibitors of estrogen synthesis, may be superior to tamoxifen in postmenopausal women with hormone-dependent breast cancer, says Professor Per Lønning from Haukeland University Hospital, Bergen, Norway.

The third-generation aromatase inhibitors anastrozole and letrozole and the inactivator exemestane effectively inhibit estrogen synthesis by 97–99%, says Professor Lønning. He says that clinical data have shown these compounds to be superior to conventional second-line therapy (megestrol or aminoglutethimide) with respect to relapse-free and overall survival, and to tamoxifen as a first-line treatment for metastatic breast cancer.

Sequential therapy beneficial?

Professor Lønning says that the lack of cross-resistance between tamoxifen and aromatase inhibitors and inactivators in advanced breast cancer '*suggests that sequential therapy could be beneficial in preventing the outgrowth of tamoxifen resistant micrometastases in some patients undergoing adjuvant therapy*'. Other data suggest that aromatase inhibitors could be used instead of chemotherapy for reducing the size of tumours in postmenopausal women with estrogen receptor-positive breast cancer.

Finally, Professor Lønning notes that clinical evidence has shown that postmenopausal women with elevated plasma estrogen levels are at risk for subsequent breast cancer, which suggests that aromatase inhibitors and inactivators may have a role in the prevention of breast cancer.

Lønning PE. Aromatase inhibitors and inactivators in breast cancer: these potent inhibitors of oestrogen synthesis may be superior to tamoxifen. BMJ 323: 880-881, 20 Oct 2001

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