

# Sequential Therapy With Tamoxifen and Aromatase Inhibitors in Early-Stage Postmenopausal Breast Cancer: A Review of the Evidence

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**Purpose/Objectives:** To review the available evidence for the emerging role of aromatase inhibitors (AIs) in postmenopausal women with hormone-sensitive early-stage breast cancer.

**Data Sources:** Studies published in journals indexed in PubMed® and abstracts and presentations from international conferences.

**Data Synthesis:** Switching to an AI improves survival and reduces cancer recurrence in postmenopausal women who have received two or three years of adjuvant tamoxifen treatment but presents challenges with regard to patient selection, cost, and management of treatment-related adverse events such as bone loss and arthralgia.

**Conclusions:** Third-generation AIs have the potential to significantly improve clinical outcomes in postmenopausal women with early-stage breast cancer, although the optimal treatment regimen for individual patients has yet to be determined.

**Implications for Nursing:** Oncology nurses play a vital role in identifying patients suitable for AI therapy, educating patients about their treatment, and preventing and managing treatment-related adverse events.

Each year in the United States, approximately 182,460 postmenopausal women are diagnosed with invasive breast cancer (American Cancer Society, 2008). After initial treatment with surgery and radiotherapy, most patients are offered adjuvant endocrine therapy to reduce the risk of recurrent or contralateral breast cancer. Tamoxifen has been the mainstay of adjuvant endocrine therapy for hormone-sensitive early-stage breast cancer since the 1980s. However, the development of newer agents, such as third-generation aromatase inhibitors (AIs), has increased the options available for adjuvant therapy for postmenopausal women with breast cancer (D'Hondt & Piccart, 2004; Grana, 2003; Michaud, 2005; Palmieri & Perez, 2003).

Oncology nurses, in addition to providing clinical care, are an important source of information and guidance, from initial diagnosis through treatment and follow-up, to patients with breast cancer (Halkett, Arbon, Scutter, & Borg, 2006; Harwood, 2004; Rosenzweig, 2006). Patients look to oncology nurses for information about treatment options and guidance regarding the potential impact of treatment on their overall health and quality of life (QOL), as well as for support in dealing with the emotional consequences of treatment (Halkett et al.). Nurses often are the first point of contact in addressing

## Key Points . . .

- ▶ Although tamoxifen has been the standard of care for the adjuvant treatment of early-stage breast cancer in postmenopausal women for many years, the drug is associated with an increased risk of vaginal discharge and bleeding, proliferative endometrial abnormalities, and endometrial cancer, in part because of its partial estrogen-agonist effects. Furthermore, many tumors eventually become resistant to tamoxifen.
- ▶ In postmenopausal women, the majority of circulating estrogen is derived peripherally from aromatase-mediated conversion of testosterone. Third-generation aromatase inhibitors (AIs) inhibit peripheral aromatase activity and decrease plasma estrogen levels to less than 20% of pretreatment levels.
- ▶ Compared with remaining on tamoxifen, switching from tamoxifen after two or three years to treatment with an AI is associated with improved survival, decreased cancer recurrence, and a decreased incidence of contralateral breast cancer, but it also is associated with an increased incidence of arthralgia, bone loss, and variable effects on lipid metabolism.
- ▶ Current clinical treatment guidelines, including those from the American Society of Clinical Oncology, the National Comprehensive Cancer Network, and the International Consensus Panel on the Treatment of Primary Breast Cancer, recommend that optimal adjuvant hormonal therapy for postmenopausal women with hormone receptor-positive breast cancer should include an AI.

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