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.

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.

Georgia Litsas, APRN, BC, AOCNP®, is a nurse practitioner in the breast oncology center in the Department of Medical Oncology at the Dana-Farber Cancer Institute in Boston, MA. Editorial support was provided by Catherine Grillo, MS, of Complete Healthcare Communications, Inc., and was funded by Pfizer Inc. Mention of specific products and opinions related to those products do not indicate or imply endorsement by the Oncology Nursing Forum or the Oncology Nursing Society. (Submitted July 2007. Accepted for publication January 11, 2008.)