Summary

The purpose of this systematic review is to summarize adverse cardiovascular effects of aromatase inhibitors (AIs) in postmenopausal patients diagnosed with breast cancer (BC) and outline a management plan for these patients. Aromatase inhibitors are indicated as a first-line adjuvant endocrine therapy in postmenopausal women with estrogen-positive BC. Although AIs have better efficacy and toxicity profiles compared to tamoxifen, adverse cardiac events are important considerations due to estrogen deprivation and the probability of worse lipid profile outcomes. A systematic PubMed literature search through April 2011 was conducted. Studies comparing adverse cardiovascular events from AIs with tamoxifen as primary or secondary outcomes and published as a full text manuscript in English were included. Many trials that prospectively analyzed the effects of AIs on the cardiovas-cular system were found. When compared with tamoxifen, AIs had worse outcomes in short-term follow-up, but had similar outcomes in long-term follow-up. Several trials suggested that regular assessment of serum lipids, cardiac parameters which might be effected by adjuvant therapy, and management of hypertension and weight control are important to minimize cardiovascular risks, especially in women aged >65 years, who constitute >50% of the BC population. In conclusion, we found no direct comparison between the AIs in adjuvant therapy, but the decision to use one specific AI should depend on its toxicity and efficacy profile. Reducing the severity and fre-quency of adverse cardiac events may improve quality of life for patients taking AIs and yield continuation of this well-documented and beneficial therapy.

Review criteria

Information on adverse cardiac events from AIs was collected via a search for primary trials comparing AIs with tamoxifen and review literature in PubMed using the terms «AIs», «adverse cardiovascular events», «breast can-cer» and «cardiac management of adverse cardiac events». This data was then gathered with other relevant articles such as those comparing AIs and placebos.

Message for Clinic

AIs are one of the best options for adjuvant treatment in patients with BC; however concerns about their cardiac effects should be taken into account in management strategies. Recently, published data on cardiac events implied that AIs can be selected as a first-line therapy or switched therapy based on the patient’s tolerance. Cancer patients are vulnerable to many conditions; they can be protected from adverse events with better therapy regimens and regular assessment.

Keywords

Aromatase inhibitors, breast cancer, adverse cardiovascular effects.