Cuglan B., Soran O. The adverse cardiovascular effects of aromatase inhibitors and its management in patients with breast cancer

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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.

**Asawaeer M., Riaz I.bin, Carli S., Singh P. Tyrosine kinase inhibitors and mammalian target of rapamycin inhibitors related to cardiac toxicity**

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**Abstract**

**Background.** Tyrosine kinase inhibitors (TKIs) and mammalian target of rapamycin inhibitors (mTORIs) are emerging as one of the most commonly used targeted chemotherapeutic agents in cancer treatment. As with any other medication, adverse effects are not uncommon, especially cardiac adverse effects. Given the improved survival with the use of these medications, it is anticipated that primary care providers are going to manage them and deal with the adverse effects they developed from using these medications more frequently.

**Aim.** We reviewed comprehensively the cardiovascular adverse effects of the oral TKIs and mTORIs. In addition, we offered the current recommendations regarding management of these cardiovascular adverse effects to help the primary care providers manage these side effects.

**Methods and Materials.** A formal literature review of PubMed and ClinicalTrials.gov using the following terms: “sunitinib, sorafenib, pa-zopanib, temsirolimus, and everolimus” was used, with only phase 2 and 3 clinical trials in English language and published up to April 5, 2013 were consider in this review article.

**Results.** We found that hypertension is the most commonly reported adverse effect with the use of TKIs. Pazopanib was as-sociated with the highest incidence of hypertension. 32% of the patients who received pazopanib developed grade 1/2 hypertension and 6% developed grade 3/4 hypertension. The use of oral mTORIs was associated more with endocrinological derangements including hypertriglyceridaemia and hyperglycaemia, especially with everolimus usage.

**Conclusion.** It is not uncommon to see cardiac adverse effects with the usage of oral TKIs and mTORIs.

**Keywords**

Oral TKIs, mTORIs, adverse effects, cardiac

**Yandieva R.A., Saribekyan E.K., Mamedov M.N.**

**Cardiotoxicity of cancer therapy.**

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**Summary**

Nowadays cancer is the second leading cause of death in Europe and in Russia. Life expectancy and relapse-free survival in cancer patients have increased significantly due to advanced diagnostics and innovative pharmacological treatment and radiotherapy. In accordance with it, time, the number of patients suffering from various complications including cardiologic ones has increased proportionally. Many chemotherapy agents have cardiotoxic effects that often are refractory to treatment and that are mostly manifested as asymptomatic ECG changes up to myocardial infarction, as various rhythm and conduction disorders, or as toxic cardiomyopathy with signs of severe heart failure. Taking into account all above-mentioned points, well-timed detection, monitoring and treatment of complications arising during and after anticancer therapy become new relevant tasks in clinical practice.

**Key words**

Сancer, antitumoral drugs, chemotherapy, radiotherapy, cardiotoxicity, prevention