Editorial

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Clopidogrel and the C3435T single nucleotide polymorphism and breast cancer therapies

Editorial

In this issue of Drug Design Development & Therapy, a review of breast cancer therapies and the influence of C3435T on the clinical outcomes of clopidogrel are presented. Breast cancer is the most common cancer diagnosed among women in the United States.[1] In their article, Anjum et al provide a review of the available breast cancer therapies. They start by explaining the staging of breast cancer with the available treatment options and prognosis for each stage. They then follow by explaining the mechanism of action and the efficacies of the different classes of available breast cancer therapies.

Resistance to chemotherapeutic agents by cancer cells can develop though different mechanisms. One of those mechanisms involves reduced drug accumulation within cancer cells due to efflux pumps. The first of those efflux pumps to be identified and characterized is a member of the ATP-Binding Cassette (ABC) family of transporters known as P-glycoprotein which is encoded by the MDR1 gene, also known as ABCB1, in humans.[2] In addition to anticancer drugs, P-glycoprotein is also involved in transporting other groups of drugs and, therefore, mutations in this gene[3] may influence the pharmacokinetics of different drugs. Vavlukis et al in their research article study the influence of the single nucleotide polymorphism C3435T in the MDR1 gene on the clinical outcomes in patients with coronary artery disease who is receiving clopidogrel treatment. The study was conducted on a Macedonian population of 203 subjects of which the number of healthy volunteers was 107 and those with coronary artery disease who were receiving clopidogrel were 96.

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None.

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Conflict of interest

The author declares no conflict of interest.

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