

عنوان مقاله:

Relevance of genetic polymorphisms of the human cytochrome P450 3A4 in rivaroxaban-treated patients

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خلاصه مقاله:

Rivaroxaban is an anticoagulant drug that prevents forming of blood clots. In addition, it can be administered to prevent and treat thrombotic diseases such as atrial fibrillation, cardiac arrhythmia, heart valve disease, orthopedic surgery, and thrombophilia to reduce the risk of thrombosis. Various factors such as age, gender, diet, medications, and genetic factors effectively determine the dose of rivaroxaban. Genetic variability in drug-metabolizing enzymes, including the cytochrome P450 (CYP450) enzymes and especially CYP3A4, has been associated with rivaroxaban response. The current study aimed to identify the frequency of CYP3A4 common polymorphisms, as well as their association with rivaroxaban response in 100 patients of Arab descent (48.6% female). CYP3A4 gene polymorphisms were examined by the PCR-RFLP method, and the findings were analyzed by SPSS 16 software and t-test. The frequency of CYP3A4*1B/*1B, CYP3A4*1B/*1A, CYP3A4*1B/*1C, and CYP3A4*1A/*1C was 67.35%, 10.64%, 19.12% and 2.89%, respectively. According to our results, CYP3A4 *1B/*1B genotype was the most common, and patients with CYP3A4*1B/*1B alleles needed a higher daily dose of rivaroxaban than *1B/*1A, *1B/*1C, and *1A/*1C carriers (9.57 ± 1.54 mg/day, $P=0.015$). Therefore, according to the results, CYP3A4 gene polymorphism has an important effect on the .dose of rivaroxaban required to maintain the International Normalized Ratio (INR) in the range of 2-3

کلمات کلیدی:

Blood Clots, Cardiovascular disease, CYP3A4 gene, Genetic Characteristics, Multiple Alleles

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