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Investigating the Effect of Demographics, Clinical Characteristics, and Polymorphism of MDR-1, CYP1A2, CYP3A4, and CYP3A5 on Clopidogrel Resistance.

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Abstract: Clopidogrel is an antiplatelet agent that is indicated for cardiovascular emergencies and procedures. The drug, however, is subject to response variability leading to therapy resistance. In this research, we explored the demographic, clinical, and genetic factors associated with clopidogrel resistance. Data analysis among our 280 subjects receiving clopidogrel showed some risk factors that are significantly associated with clopidogrel resistance compared with responders. Those were: female sex ($P = 0.021$), advanced age ($P = 0.011$), obesity ($P = 0.002$), and higher body mass index ($P = 0.008$) and higher platelets count ($P = 0.002$). However, known polymorphisms of MDR-1, CYP1A2, CYP3A4, and CYP3A5 were not associated with treatment resistance when compared to responders to clopidogrel therapy. Knowledge about such risk factors might provide recommendation in the future about starting doses or monitoring recommendations.