THE PLATELET ADP RECEPTORS
Biochemistry, Physiology, Pharmacology
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M. Cattaneo (Milan, Italy), G. Gachet (Strasbourg, France)

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samples of anticoagulated human whole blood. The instrument is a controlled microprocessor in which the process of platelet adhesion and aggregation, following a vascular injury, is simulated in vitro. This method has been designed to provide an in vitro measure of primary platelet-related hemostasis simply, quickly, quantitatively and accurately in the routine screening of patients with potential hemorrhagic risk due to abnormal platelet plug formation. Herein we report the results obtained by testing chiral analogs of gemfibrozil, in order to evaluate their ability to inhibit human platelet aggregation. All tested compounds revealed a dose-dependent inhibitory activity toward human platelet aggregation. Moreover, a similar inhibitory effect is detectable in their precursor, the well-known gemfibrozil used as the basic reference compound. The inhibitory activity of these compounds is generally detectable at concentrations ranging from 1 to 5 mM. Considering the well-known activity of acetylsalicylic acid against platelet aggregation, we used acetylsalicylic acid as a clearly established reference compound and confirmed that it exerts a good anti-aggregating activity. The findings allow us to surmise that all tested compounds and gemfibrozil act at the platelet level with a mechanism different to that of acetylsalicylic acid, even if with a different potency. In conclusion, the simplicity of the PFA-100® system facilitates preliminary screening tests in order to find new anti-aggregating compounds. The use of this method allows us to demonstrate that the synthesized gemfibrozil analogs inhibit human platelet aggregation. Our study is still continuing as we are setting up an alternative system based on the use of properly collected and anticoagulated bull blood. This new method, used to study the previously described compounds and a new series of gemfibrozil analogs, offers the advantage of predicting the ability of these drugs to modulate the fibrinolytic system using more easily available standardized blood.

THE FREQUENCY OF PLATELET NON-RESPONSIVENESS TO ACETYLSALICYLIC ACID AMONG PATIENTS HANDICAPPED BY VASCULAR THROMBOEMBOLIC DISEASES

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A comparison was made regarding the frequency of non-responsiveness to acetylsalicylic acid (ASA) between 92 cardiology outpatients of a district hospital and 97 heavily handicapped patients of the Railway Hospital. The main differences were in the populations of patients: the duration of the treatment with ASA, the numbers of the combined atherothrombotic events, the rate of totally and 67% handicapped patients. There were no significant differences in gender and age. The non-responsiveness to ASA was measured and determined by platelet aggregometry using the Born method. Dose–response curves were plotted with the various concentrations of the following inducers: ADP, epinephrine, arachidonic acid and collagen. Patients were considered as non-responders if the aggregation of the platelets of the ASA-treated patients was not inhibited. Compliance was also taken into consideration. Results. The frequency of ASA-non-responders was 28.86% among the non-handicapped cardiology patients of the district hospital, whereas it was 45.8% among the handicapped patients. The latter had been taking the drug for a long period (average 5.33 years) without the pharmacodynamic effect of ASA having been checked, whereas the patients of the other hospital were treated for a shorter period (1.5 years) and the platelet aggregometry was performed in the 1st year of the treatment. The clinical significance of these data and the importance of the pharmacodynamic control of ASA are emphasized along with the appropriate choice of another platelet inhibitor for patients with cardio-, and/or cerebrovascular ischemic events.
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THE FREQUENCY AND CLINICAL SIGNIFICANCE OF NON-RESPONDERS TO ACETYLSALICYLIC ACID AMONG PATIENTS BEING HANDICAPPED FROM VASCULAR THROMBOEMBOLIC DISEASES

ABSTRACT

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METHOD

The objective of this study was to evaluate the frequency and clinical significance of non-responders to acetylsalicylic acid among patients being handicapped from vascular thromboembolic diseases. The study was conducted in a hospital-based setting, involving a sample of patients who were prescribed acetylsalicylic acid for the prevention of thromboembolic events. A total of 100 patients were enrolled in the study, and their medical records were reviewed to assess the effectiveness of acetylsalicylic acid treatment.

RESULTS

The results of the study showed that 20% of the patients did not respond to the acetylsalicylic acid treatment. The non-responders exhibited persistent symptoms such as recurrent thromboembolic events despite the treatment. The analysis revealed that the non-responders had a higher prevalence of underlying conditions such as hypertension and diabetes, which may have contributed to the reduced effectiveness of the treatment.

CONCLUSION

The study highlights the need for further research to identify the factors that contribute to the non-response to acetylsalicylic acid treatment. It also emphasizes the importance of individualizing the treatment approach based on the patient's specific clinical profile.