

Laboratorijska evaluacija faktora koji utiču na efikasnost lečenja aspirinom

Laboratory evaluation of factors affecting the efficacy of aspirin treatment

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Apstrakt

Uvod. Agregacija trombocita je, kao laboratorijski test za procenu funkcije trombocita, od posebnog značaja za optimalno vođenje antitrombotične terapije i izdvajanje pacijenata koji pokazuju suboptimalni odgovor na primenu antitrombotičnih lekova, kao što su aspirin i klopidogrel.

Cilj istraživanja je bio odrediti stepen inhibicije agregacije trombocita metodom impedantne agregometrije kod pacijenata koji su uzimali različite preparate acetilsalicilne kiseline (ASA) u dozi od 100 mg dnevno.

Pacijenti i metode. Ispitivanje je obuhvatilo 215 pacijenata (110 muškaraca i 110 žena), koji su nakon infarkta miokarda sa naknadnom revaskularizacijom uzimali jedan od tri različita ASA preparata, pojedinačno ili u kombinaciji sa klopidogrelom. Od ukupnog broja, 89 pacijenata uzimali su aspirin protect (Bayer, Nemačka) – Grupa 1, 66 pacijenata uzimali su cardiopirin (GL Pharma GMBH, Austrija) – Grupa 2, dok je 60 pacijenata bilo na andolu (Pliva, Hrvatska) – Grupa 3. Grupe su bile jednake u zastupljenosti faktora koji mogu biti od uticaja na agregaciju trombocita (starost, pol, pušenje, dijabetes, uzimanje drugih lekova). Funkcija trombocita merena je na impedantnom agregometru Multiplate (Multiplate Platelet Function Analyzer, Roche) iz uzoraka krvi sa heparinom korišćen ASPI i TRAP testa (rezultati su izraženi kroz površinu ispod agregacione krivulje u periodu ispitivanja (AU*min)).

Rezultati. Postoji statistički značajna razlika u efikasnosti različitih ASA preparata ($\chi_{KW}^2=46,279$; $p<0,001$), što se vidi i posebno kod pacijenata koji su na pojedinačnoj ($\chi_{KW}^2=26,344$; $p<0,001$) i dvojuj terapiji ($\chi_{KW}^2=23,498$; $p<0,001$). Pacijenti koji su uzimali aspirin protect imali su značajno bolju efikasnost leka u poređenju sa pacijentima koji su uzimali cardiopirin ($Z=5,472$; $p<0,001$) i andol ($Z=5,387$; $p=0,022$). Postoji smanjeni efekat svih ASA preparata kod pušača, dok pacijenti koji uzimaju aspirin protect imaju 10,5 puta veću verovatnoću da budu responderi.

Zaključak. Različiti preparati acetilsalicilne kiseline posmatrani u ovom ispitivanju pokazuju laboratorijski značajno različitu efikasnost na funkciju trombocita merenu metodom impedantne agregometrije.

Abstract

Introduction: Platelet aggregation, as a laboratory test to assess platelet function, is of particular importance for optimal antiplatelet therapy and isolation of patients who show a suboptimal response to antiplatelet medications, such as aspirin and clopidogrel.

The aim of the study was to determine the degree of inhibition of platelet aggregation by impedance aggregometry in patients taking various acetylsalicylic acid (ASA) preparations at a dose of 100 mg daily.

Patients and methods. The study included 215 patients (110 men and 110 women) who took one of three different ASA preparations, alone or in combination with clopidogrel, after myocardial infarction with subsequent revascularization. Of the total number, 89 patients took Aspirin protect (Bayer, Germany) - Group 1, 66 patients took Cardiopirin (GL Pharma GMBH, Austria) - Group 2, while 60 patients were on Andol (Pliva, Croatia) - Group 3. The groups were equal in the presence of factors that may affect platelet aggregation (age, sex, smoking, diabetes, taking other medicines). Platelet function was measured on an implant aggregometer Multiplate (Multiplate Platelet Function Analyzer, Roche) from blood samples with heparin using ASPI and TRAP test (results were expressed through the area below the aggregation curve during the test period (AU * min)).

Results: There is a statistically significant difference in the efficacy of different ASA preparations ($\chi_{KW}^2 = 46.279$; $p < 0.001$), which is seen especially in patients on single ($\chi_{KW}^2 = 26.344$; $p < 0.001$) and dual therapy ($\chi_{KW}^2 = 23.498$; $p < 0.001$). Patients taking Aspirin protect had significantly better efficacy compared to patients taking Cardiopyrin ($Z = 5.472$; $p < 0.001$) and Andol ($Z = 5.387$; $p = 0.022$). There is a reduced effect of all ASA preparations in smokers, while patients taking Aspirin protect are 10.5 times more likely to be responders.

Conclusion: The different acetylsalicylic acid preparations observed in this study show laboratory-significantly different efficacy on platelet function measured by impedance aggregometry.