

INTISARI

HUBUNGAN MARKER REAKTIVITAS TROMBOSIT (*MEAN PLATELET VOLUME (MPV) DAN PLATELET DISTRIBUTION WIDTH (PDW)*) DENGAN KEBERHASILAN TERAPI FIBRINOLITIK PADA PASIEN *ST SEGMENT ELEVATION ACUTE MYOCARDIAL INFARCT (STEMI)* USIA LANJUT

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Latar belakang: Reaktivitas trombosit terbukti berhubungan dengan keberhasilan terapi fibrinolitik pada pasien STEMI. Proses menua mempengaruhi fisiologi komponen trombosit, yaitu meningkatnya reaktivitas trombosit. Penelitian mengenai hubungan marker reaktivitas trombosit yaitu *mean platelet volume (MPV)* dan *platelet distribution width (PDW)* dengan keberhasilan fibrinolitik pada pasien STEMI usia lanjut belum pernah dilakukan di Indonesia.

Metode: Penelitian ini merupakan penelitian *case control*. Pengambilan data dan pengolahan data dilaksanakan pada bulan Oktober sampai November 2019 di Intalasi Rekam Medis RSUP Dr. Sardjito. Analisis uji T dengan alternatif uji *Mann Whitney* dilakukan untuk menganalisis variabel bebas yang berhubungan dengan keberhasilan terapi fibrinolitik. *Receiver Operating Analysis (ROC)* digunakan untuk menentukan nilai *cut off PDW*. Kemaknaan $p < 0,05$ dianggap signifikan.

Hasil : Seratus enam subyek penelitian yang memenuhi kriteria inklusi dan eksklusi mengikuti penelitian ini. Hasil penelitian ini menunjukkan MPV dan PDW tidak berpengaruh terhadap tingkat keberhasilan terapi fibrinolitik pada pasien STEMI usia lanjut pada penelitian ini ($p=0,26$ dan $p=0,05$). Nilai *cut off PDW* dalam memprediksi keberhasilan terapi fibrinolitik pada pasien STEMI usia lanjut adalah 9,45 fL (AUC=0,603, sensitivitas 94,1%, spesifisitas 27,7%, OR=6,118 (1,279-29,259), $p=0,01$).

Kesimpulan : Penelitian ini menunjukkan bahwa MPV tidak berpengaruh terhadap tingkat keberhasilan terapi fibrinolitik pada pasien STEMI usia lanjut. *Platelet distribution width* berhubungan dengan keberhasilan terapi fibrinolitik pada penelitian ini tetapi tidak secara independen. Nilai di bawah PDW 9,45 fL meningkatkan tingkat keberhasilan terapi fibrinolitik pada pasien STEMI usia lanjut sebanyak 6,118 kali dibandingkan kelompok dengan kegagalan terapi fibrinolitik

Kata kunci : reaktivitas trombosit, *mean platelet volume (MPV)*, *platelet distribution width (PDW)*, terapi fibrinolitik, STEMI, usia lanjut

ABSTRACT

A STUDY OF ASSOCIATION BETWEEN PLATELET REACTIVITY MARKERS (MEAN PLATELET VOLUME (MPV) AND PLATELET DISTRIBUTION WIDTH (PDW)) AND THE SUCCESS OF FIBRINOLYTIC THERAPY IN ELDERLY WITH ST SEGMENT ELEVATION ACUTE MYOCARDIAL INFARCT (STEMI)

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Background: Platelet reactivity is related with the success of fibrinolytic therapy in STEMI patients. Ageing process causes increased platelet reactivity. Study exploring the effect of platelet reactivity on fibrinolytic therapy success in geriatric STEMI patients has not been done in Indonesia yet. This study aims to explore the relationship between platelet reactivity markers (mean platelet volume (MPV) and platelet distribution width (PDW)) and the success of fibrinolytic therapy on elderly with STEMI.

Methods: This is a retrospective case control study. The study was conducted in the Emergency Department Dr. Sardjito Hospital, Yogyakarta. The study began in October – November 2019. The effect of independent variables on fibrinolytic therapy success were statistically assessed by independent t-test or Mann Whitney test. *Receiver Operating Analysis* (ROC) was done to determine the cut off value of PDW. P value < 0,05 was considered significant.

Results: There are 106 subjects who met the inclusion and exclusion criteria in this study. The results showed that MPV and PDW do not alter the success of fibrinolytic therapy in geriatric STEMI patients. ($p=0,261$ dan $p=0,051$). Cut off of PDW in predicting fibrinolytic success in elderly is 9,45 fL (AUC=0,603, sensitivity 94,1%, specificity 27,7%, OR=6,118 (1,279-29,259), $p=0,01$).

Conclusion: This study suggested that MPV does not alter the success of fibrinolytic therapy in geriatric STEMI patients. *Platelet distribution width* correlates with fibrinolytic success in elderly. PDW below 9,45 fL increases fibrinolytic success to 6,118 times in elderly.

Keyword: platelet reactivity, *mean platelet volume* (MPV), *platelet distribution width* (PDW), fibrinolytic therapy, STEMI, elderly.