

**Perbedaan *Mean Platelet Volume* pada Pasien *Infark Miokard Akut Dengan Diabetes Melitus* dan *Non-Diabetes Melitus Tipe II* di Rumah Sakit Umum Daerah Dr. Moewardi di Surakarta**

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**Intisari**

*Infark Miokard Akut* (IMA) adalah keadaan lanjutan mekanisme iskemia miokardium, disebabkan oleh adanya sumbatan total pembuluh darah koroner yang mengalami insufisiensi dengan sistem kolateral tidak bekerja dengan baik sehingga mengakibatkan rusaknya sebagian miokardium. *Diabetes melitus* (DM) adalah keadaan hiperglikemia dan gangguan metabolisme lemak, karbohidrat, dan protein dihubungkan dengan kekurangan sekresi insulin. *Mean platelet volume* (MPV) merupakan penunjuk fungsi dan aktivasi trombosit. Penelitian ini bertujuan untuk mengetahui apakah ada perbedaan MPV pasien *infark miokard akut* dengan DM ataupun non-DM tipe II.

Metode yang digunakan pada penelitian ini adalah observasi analitik dengan pendekatan *cross-sectional*. Populasi target dalam penelitian ini adalah data pasien IMA dengan riwayat DM dan non DM tipe II yang melakukan pemeriksaan MPV di Instalasi Patologi Klinik RSDM di Surakarta dalam rentang tahun 2014- 2018. Data yang digunakan adalah data sekunder yang diperoleh dan dikumpulkan dari rekam medis. Analisis dilakukan secara komputerisasi dengan uji parametrik *independent sample t- test* dengan interval kepercayaan 95%.

Hasil rerata  $\pm$  SD kadar MPV pada pasien IMA dengan DM tipe II ( $8,487 \pm 1,3211$ ) lebih tinggi daripada rerata  $\pm$  SD pasien IMA non DM tipe II ( $8,413 \pm 1,0628$ ). Berdasarkan hasil penelitian dan analisis data MPV pada pasien IMA dengan riwayat DM dan non DM maka dapat disimpulkan bahwa tidak terdapat perbedaan yang signifikan terhadap kadar MPV pada pasien IMA dengan riwayat DM dan non DM. Perlu dilakukan penelitian lebih lanjut mengenai faktor apa saja yang mempengaruhi terjadinya peningkatan maupun penurunan kadar MPV.

Kata kunci: *Infark miokard akut, diabetes melitus, mean platelet volume*

***The Differences of Mean Platelet Volume of Acute Myocardial Infarction Patients with and without Type II Diabetes Mellitus at Rumah Sakit Umum Daerah Dr. Moewardi, Surakarta***

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***Abstract***

Acute Myocardial Infarction (IMA) is a continued situation of myocardium ischemia mechanism which is generally caused by a totally coronary arteries blockage under insufficient condition. Collateral system itself does not work properly, thus it could affect in partially myocardium degradation. Meanwhile, Diabetes Mellitus (DM) is a hyperglycemic situation or the disruption of fats, carbohydrates, and proteins metabolism in the body which are associated absolutely or relatively of insulin deficiency in term of its secretions and activities. Other term, Mean Platelet Volume (MPV) refers to thrombocytes or platelets activities and its functions in the body. Large size of platelets represents the average volume of platelet granules which indicate more dense and reactive in DM. This study aims to understand whether any differences of MPV in IMA patients with and without DM.

An analytical observation with cross-sectional approach was performed as the method of this study. Targeted population for sampling were IMA patients who have DM and non-DM history and examined their MPV at Pathological Clinic Laboratory, Rumah Sakit Umum Daerah Dr. Moewardi, Surakarta within 2014-2018. Secondary data were used which were collected from medical records. An analysis was conducted using computer program by independent sample t-test with 95% confidence level.

The mean outcomes of  $\pm$  SD MPV levels in IMA patients with DM ( $8.487 \pm 1.3211$ ) were higher than mean  $\pm$  SD of non-DM IMA patients ( $8.413 \pm 1.0628$ ). Based on the results of research and analysis of MPV data on IMA patients with history of DM and non-DM it can be concluded that there is no significant difference to MPV levels in IMA patients with history of DM and non-DM. Further research needs to be done on what factors affect the increase or decrease in MPV levels

Based on thorough analyses, it can be concluded that there is no significant difference of MPV levels between IMA patients with DM and without DM. Further research needs to be done on what factors affect the increase or decrease in MPV levels.

**Keywords:** acute myocardial infarction, diabetes mellitus, mean platelet volume

