

INTISARI

PERBEDAAN *MEAN PLATELET COMPONENT* PADA PENDERITA RETINOPATI DIABETIKA TIPE NON-PROLIFERATIF DAN TIPE PROLIFERATIF

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Tujuan Menilai perbedaan nilai *mean platelet component* antara pasien retinopati diabetika non-proliferatif dan proliferasif.

Metode Tujuh puluh satu penderita diabetes melitus (DM) tipe 2 dengan komplikasi retinopati diabetika (RD) menjalani pemeriksaan dan dinilai tingkat keparahan RD menggunakan foto fundus kedalam dua kelompok besar, yaitu kelompok satu sebagai retinopati diabetika non-proliferatif (NPDR) dan kelompok dua sebagai retinopati diabetika proliferasif (PDR). Dilakukan pengambilan sampel darah pada keseluruhan penderita dan dinilai kadar *mean platelet component* (MPC) menggunakan alat analisis hematologi otomatis ADVIA 120. Perbedaan rerata MPC dan karakteristik subjek antara dua kelompok dinilai menggunakan *chi square test* untuk data nominal, dan *t test* atau *Anova* untuk data numerik. Untuk menetapkan perbedaan rerata nilai MPC lebih dari 2 kelompok dianalisis dengan uji *Anova* dan korelasi MPC menggunakan uji Pearson.

Hasil Nilai MPC pada kelompok NPDR adalah 26,69 ($\pm 1,79$) dan PDR 25,52 ($\pm 1,20$) dengan $p=0,002$, namun selisihnya tidak bermakna secara klinis. Pada analisis MPC terkait derajat keparahan NPDR dan PDR secara detail, didapatkan perbedaan bermakna pada NPDR *mild* dengan PDR *high-risk*, $p=0,015$; dan NPDR *moderate* dengan PDR *high-risk* dengan nilai $p=0,024$. Pada perbandingan RD ringan (NPDR *mild* dan *moderate*) dengan RD berat (PDR *high-risk* dan *advanced*) diperoleh perbedaan bermakna dengan MPC RD ringan 27,01 ($\pm 1,64$) dan RD berat 25,31 ($\pm 1,22$), $p=0,001$. Proporsi trombosit yang teraktivasi juga lebih tinggi pada RD berat. Terdapat korelasi negatif antara MPC dengan durasi DM ($r=-0,338$; $p=0,004$) dan tekanan darah sistolik ($r=-0,241$; $p=0,043$).

Kesimpulan Tidak terdapat perbedaan bermakna terhadap nilai MPC pada NPDR dan PDR, namun jika dibandingkan antara RD ringan (NPDR *mild* dan *moderate*) dengan RD berat (PDR *high-risk* dan *advanced*), terdapat perbedaan yang bermakna. Disarankan menggunakan alat bantu tambahan lain disamping foto fundus dalam penilaian RD.

Kata kunci: retinopati diabetika non-proliferatif, retinopati diabetika proliferasif, *mean platelet component*, diabetes, ADVIA 120

ABSTRA
CT

MEAN PLATELET COMPONENT IN NON-PROLIFERATIVE
AND PROLIFERATIVE DIABETIC RETINOPATHY PATIENTS

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Purpose To investigate the difference of Mean Platelet Component (MPC) values in patients with non-proliferative diabetic retinopathy and proliferative diabetic retinopathy.

Methods Seventy-one type 2 diabetes mellitus (DM) subjects with diabetic retinopathy (DR) underwent examination and the severity of DR was graded using fundus photograph and classified into two major groups, namely non-proliferative diabetic retinopathy (NPDR) as the first group and proliferative diabetic retinopathy (PDR) as the second. Blood samples were taken in all subjects and assessed for mean platelet component (MPC) using an ADVIA 120 automatic hematology analyzer. The difference in mean MPC and subject characteristics between the two groups was assessed using chi square test for nominal data, and t test or Anova for numerical data. To determine the difference in mean MPC values of more than 2 groups Anova test was used and Pearson test was used for analyzing correlation between MPC and other parameters.

Results MPC values in the NPDR group were 26.69 (± 1.79) and PDR 25.52 (± 1.20) with $p = 0.002$, but the difference was not clinically significant. In-depth analysis of NPDR and PDR grades found that there were significant differences in mild NPDR with high-risk PDR ($p = 0.015$); and moderate NPDR with high-risk PDR ($p = 0.024$). In the mild DR (mild and moderate NPDR) and severe DR state (high-risk and advanced PDR) comparison, there was a significant difference with mean MPC of 27.01 (± 1.64) and 25.31 (± 1.22) for mild DR state and severe DR state, respectively ($p = 0.001$). The proportion of activated platelets is also higher in severe DR. There is a negative correlation between: MPC with duration of DM ($r = -0.333$; $p = 0.004$) and MPC with systolic blood pressure ($r = -0.241$; $p = 0.043$).

Conclusion There was no significant difference in MPC between non-proliferative and proliferative diabetic retinopathy. Despite the results, in-depth analysis showed that there is a significant difference when compared to subgroups of diabetic retinopathy between the mildest and most severe form. Another additional method to assess DR aside from fundus photograph is recommended.

Keywords: non-proliferative diabetic retinopathy, proliferative diabetic retinopathy, mean platelet component, diabetes, ADVIA 120.