

ABSTRAK

PENDAHULUAN: Neuropati Diabetik Perifer (NDP) merupakan salah satu komplikasi Diabetes Melitus (DM) yang terjadi karena reaksi glikasi protein yang mengarah ke *Advanced Glycation End Products* (AGEs). Pembentukan dan akumulasi AGEs di saraf perifer dapat menyebabkan peningkatan agregasi trombosit sehingga terjadinya disfungsi vaskular neural. Tujuan penelitian ini untuk mengetahui hubungan AGEs terhadap peningkatan aktivitas agregasi trombosit menggunakan agonis *Adenosine Diphosphate* (ADP) pada penderita NDP. **METODE:** Penelitian ini merupakan *cross sectional* yang dilakukan pada Oktober 2019 sampai Desember 2020. Sampel adalah penderita yang terkonfirmasi mengalami NDP oleh dokter saraf yang berusia 40 – 65 orang. Pengambilan sampel dilakukan secara *consecutive sampling* yang memenuhi kriteria inklusi hingga sampel memenuhi 85 orang. Seluruh data diuji normalitas dengan uji *Kolmogorof-Spinov*. Dikarenakan data berdistribusi tidak normal ($p < 0,05$), maka dilakukan uji spearman untuk melihat hubungan AGEs dengan aktivitas agregasi trombosit menggunakan agonis ADP pada penderita NDP. **HASIL:** Melalui uji spearman, terdapat hubungan kuat ($p < 0,05$) antara AGEs dengan aktivitas agregasi trombosit menggunakan Agonis ADP 10 μ M, 5 μ M, 2 μ M, dan 1 μ M baik pada % *amplitude*, nilai *slope*, dan interpretasi hasil. **KESIMPULAN:** Terdapat hubungan kuat antara AGEs dengan aktivitas agregasi trombosit menggunakan agonis ADP pada penderita NDP.

KATA KUNCI

Neuropati Diabetik Perifer, *Advanced Glycation End Products*, Aktivitas Agregasi Trombosit, Agonis *Adenosine Diphosphate*

ABSTRACT

INTRODUCTION: Peripheral Diabetic Neuropathy (NDP) is a complication of Diabetes Mellitus (DM) that occurs due to protein glycation reactions that lead to *Advanced Glycation End Products* (AGEs). The formation and accumulation of AGEs in the peripheral nerves can lead to increased platelet aggregation leading to neural vascular dysfunction. The purpose of this study was to determine the relationship between AGEs and the increase in platelet aggregation activity using *Adenosine Diphosphate* (ADP) agonists in patients with NDP.

METHOD: This study was a cross-sectional study conducted from October 2019 to December 2020. The sample was a neurologist who had confirmed NDP patients aged 40 - 65 people. Sampling was done by consecutive sampling that met the inclusion criteria until the sample met 85 people. All data were tested for normality with the Kolomogrof-Spinov test. Because the data were not normally distributed ($p < 0.05$), a Spearman test was performed to see the relationship between AGEs and platelet aggregation activity using ADP agonists in patients with NDP.

RESULTS: Through the Spearman test, there was a strong relationship ($p < 0.05$) between AGEs and platelet aggregation activity using ADP agonists 10 μM , 5 μM , 2 μM , and 1 μM both at *%amplitude*, *slope* value, and interpretation of results.

CONCLUSION: There is a strong relationship between AGEs and platelet aggregation activity using ADP agonists in patients with NDP.

KEY WORD

Peripheral Diabetic Neuropathy, *Advanced Glycation End Products*, Platelet Aggregation Activity, *Adenosine Diphosphate* Agonist