

ABSTRACT

**THE EFFECTS OF DUAL ANTIPLATELET POST PERCUTANEOUS
CORONARY INTERVENTION ON PERCENTAGE OF AGGREGATION IN
MYOCARDIAL INFARCTION PATIENTS WITH DIABETES MELLITUS AND
NON DIABETES MELLITUS**

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Background: Myocardial infarction is an irreversible death or necrosis of the heart muscle due to a lack of oxygen supply. Revascularization of PCI is one of the management of myocardial infarction. The installation of stent may cause thrombotic complications such as stent thrombosis and restenosis. The therapy given after installation of stent is dual antiplatelet (aspirin 100 mg and clopidogrel 75 mg). In diabetic patients there can be an increased in platelet turnover, aspirin appears unable to acetylated new platelets which are released from megakaryosit during 24 hour dosing interval, thus resulting in a progressive increase in TXA₂. Similarly, in diabetic patients treated with clopidogrel, impaired platelet P2Y₁₂ blockade is largely attributed to marked reduction in the pharmacokinetic profile of clopidogrel's active metabolite and attributed to much lesser degree to altered functional status of the P2Y₁₂ signaling pathway. Recurrent ischemic that occurs in patients myocardial infarction with DM post PCI allegedly due to increase in platelet activity.

Objectives: To analyze the differences in the effect of dual antiplatelet post PCI on the percentage of aggregation in myocardial infarction patients with DM and non DM.

Method: Data were collected from November 2016-March 2017. Venous blood sample were obtain to extract percentage of aggregation before loading dose, after PCI, and after maintenance dose of dual antiplatelet (aspirin 100 mg and clopidogrel 75 mg). Percentage of aggregation were measured with Light Transmission Aggregometry (LTA) method.

Result: Total 22 patients were participated in this study divided into 10 and 12 patients in DM and non DM group. Ages, sex, and risk factors between two groups were not significantly different ($p > 0,05$). Mean percentage of aggregation after taking dual antiplatelet (aspirin 100 mg and clopidogrel 75 mg) maintenance dose was $19,40 \pm 12,05\%$ and $15,83 \pm 10,36\%$. Mean reduction of percentage of aggregation in diabetic group ($3,30 \pm 2,91\%$) is less than non diabetic group ($6,83 \pm 5,97\%$). Statistical analysis shows that the mean reduction of percentage of aggregation between two groups were not significantly different ($p > 0,05$).

Conclusion: There is no difference in percentage of aggregation at myocardial infarct patients with diabetic and non diabetic after dual antiplatelet therapy post PCI.

Keyword: Myocardial infarction, Diabetes Mellitus, Dual antiplatelet, Aspirin and Clopidogrel, Percentage of aggregation