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ANALYSIS OF ASPIRIN IN COMBINATION WITH CLOPIDOGREL IN THE TREATMENT OF ACUTE MYOCARDIAL INFARCTION PATIENTS

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Abstract:
Introduction: *Acute myocardial infarction is defined as partial acute necrosis of the myocardium caused by persistent and severe myocardial ischemia.*
Aims and objectives: *The basic aim of the study is to analyse the aspirin in combination with clopidogrel in the treatment of acute myocardial infarction patients.*
Material and methods: *This comparative study was conducted in Health department of Punjab during October 2018 to January 2019. The data was collected from 100 acute myocardial infarction patients. In this study we investigate the outcomes of aspirin in combination with clopidogrel. The data was divided into two groups. One group used only aspirin and one group was used aspirin in combination with clopidogrel. All the basic values of the patients were collected and analysed.*
Results: *The data was collected from 100 patients. There was no thrombosis at the infarct site after coronary angiography in both groups. The total effective rate of the observation group and the control group was 89.4% and 81.8%, respectively with no significant difference. As regards re-thrombosis the observation group was significantly lower than that in the control group (1.5% vs. 12.1%).*
Conclusion: *It is concluded that the treatment based on aspirin combined with clopidogrel has better clinical efficacy than aspirin alone.*

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INTRODUCTION:

Acute myocardial infarction is defined as partial acute necrosis of the myocardium caused by persistent and severe myocardial ischemia. It is characterized by severe and persistent retrosternal pain, increased serum myocardial enzymes activity and progressive electrocardiographic changes. Some patients may also suffer from arrhythmia, shock and heart failure, which seriously threatens the lives of patients [1]. With the aggravation of aging, the improvement of people's living standard and the change of life style, the incidence of coronary atherosclerotic heart disease is increasing year by year, and the age of patients becomes younger [2]. At present, the most effective treatment for acute myocardial infarction is percutaneous coronary intervention (PCI), which can effectively relieve the clinical symptoms of patients. However, a large number of studies have shown that patients with acute myocardial infarction are prone to re-thrombosis or vascular stenosis after receiving PCI. Therefore, post-PCI continuous antithrombotic therapy is very important [3].

Platelet aggregation and thrombus formation play a critical role in the initiation and development of key complications of acute coronary syndromes (ACSs). Antiplatelet therapy and antithrombotic therapy have been demonstrated to favorably modify clinical outcome, and recent trials of revascularization in ACSs have demonstrated a reduction in the frequency of major cardiac event [4]. Antiplatelet and antithrombin therapy can have synergistic actions that reduce the risk of spontaneous or revascularization, especially percutaneous coronary intervention (PCI)–related events. Yet, all effective antithrombotic agents also increase the risk of bleeding, especially bleeding that results from vascular access or associated with surgery, including coronary artery bypass grafting (CABG) [5].

AIMS AND OBJECTIVES:

The basic aim of the study is to analyse the aspirin in combination with clopidogrel in the treatment of acute myocardial infarction patients.

MATERIAL AND METHODS:

This comparative study was conducted in Health department of Punjab during October 2018 to January 2019. The data was collected from 100 acute myocardial infarction patients. In this study we investigate the outcomes of aspirin in combination with clopidogrel. The data was divided into two groups. One group used only aspirin and one group was used aspirin in combination with clopidogrel. All the basic values of the patients were collected and analysed.

STATISTICAL ANALYSIS:

The data was collected and analysed using SPSS version 20.0. All the values were expressed in mean and standard deviation.

RESULTS:

The data was collected from 100 patients. There was no thrombosis at the infarct site after coronary angiography in both groups. The total effective rate of the observation group and the control group was 89.4% and 81.8%, respectively with no significant difference. As regards re-thrombosis the observation group was significantly lower than that in the control group (1.5% vs. 12.1%).

Table 01: Coagulation indicators and platelet aggregation rate.

Group		Group I	Group II
PT	Before treatment	11.32±2.68	11.24±2.57
	After treatment	12.01±3.38	11.59±3.41
APTT	Before treatment	33.61±5.63	33.52±5.87
	After treatment	39.44±6.57*	39.21±6.18*
PA	Before treatment	0.88±0.06	0.89±0.07
	After treatment	0.89±0.07	0.89±0.08
PAR	Before treatment	0.58±0.08	0.59±0.07
	After treatment	0.46±0.08*#	0.33±0.06*#

DISCUSSION:

The pathological background of myocardial infarction is rupture of unstable plaque of coronary artery or secondary thrombosis. Therefore clinical acute symptoms such as acute myocardial infarction may happen when thrombogenesis progresses to a certain degree [7]. The main principle of clinical treatment of acute myocardial infarction is to open the related infarct vessels as soon as possible to promote the recovery of myocardial blood flow and rescue the dying myocardium [8]. Emergency PCI is one of the effective measures for the treatment of acute myocardial infarction. In emergency PCI, trauma is mild, the opening rate of infarct vessels is more than 90%, and there is no absolute contraindication [9]. But in the process of PCI, balloon dilatation, stent implantation and other instruments are needed, which can exert pressure on the wall of coronary artery and then induce plaque rupture and intima and media injury of coronary artery. Intima and media injury of coronary artery can activate platelets and promote platelet adhesion and aggregation to form thrombus. Therefore, hemolysis and antithrombotic therapy are the keys

to successful PCI [10]. In the past, aspirin was used more frequently. The antiplatelet mechanism of aspirin is to make arachidonic acid lose its ability to transform into prostaglandin endoperoxide and hindering the formation of prostaglandin E2 and thromboxane A2 through inhibiting the activity of cyclooxygenase in platelets [11]. However, a study shows that aspirin resistance exists in a few patients although aspirin has a good therapeutic effect in the treatment of acute myocardial infarction, that is, acute thrombosis may occur even after taking aspirin, and the incidence of adverse reactions increases with the increase of dosage. Therefore, aspirin cannot reduce acute thrombotic events in clinical application [12].

CONCLUSION:

It is concluded that the treatment based on aspirin combined with clopidogrel has better clinical efficacy than aspirin alone.

REFERENCES:

1. Choudhary S. Association of syntax score with short-term outcomes among acute ST-elevation myocardial infarction patients undergoing primary PCI. Ind Heart J. 2017;69:S20–S23.
2. Weipert KF, Bauer T, Nef HM, Mollmann H, Hochadel M, Marco J, et al. Use and outcome of thrombus aspiration in patients with primary PCI for acute ST-elevation myocardial infarction:results from the multinational Euro Heart Survey PCI Registry. Heart Vessels. 2016;31(9):1438–1445.
3. Cung TT, Morel O, Cayla G, Rioufol G, Garcia-Dorado D, Angoulvant D, et al. Cyclosporine before PCI in patients with acute myocardial infarction. N Engl J Med. 2015;373(11):1021–1031.
4. Wu F, Lang YH, Mi R, Li T. Efficacy of early application of rhbnp after emergency pci in acute myocardial infarction treatment:a meta-analysis. Chin J Evid-based Cardiovas Med. 2016;8(6):672–675.
5. Feher A, Kampaktsis PN, Parameswaran R, Stein EM, Steingart R, Gupta D. Aspirin is associated with improved survival in severely thrombocytopenic cancer patients with acute myocardial infarction. The oncologist. 2017;22(2):213–221.
6. Ayanian JZ, Guadagnoli E, Mcneil BJ, Cleary PD. Treatment and outcomes of acute myocardial infarction among patients of cardiologists and generalist physicians. Arch Int Med. 2016;157(22):2570–2576.
7. Roffi M, Patrono C, Collet JP, Mueller C, Valgimigli M, Andreotti F, et al. 2015 ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation. Task Force for the Management of Acute Coronary Syndromes in Patients Presenting without Persistent ST-Segment Elevation of the European Society of Cardiology (ESC) G Ital Cardiol (Rome) 2016;17(10):831–872.
8. Sheng QH, Hsu CC, Li JP, Hong T, Huo Y. Combining fragmented QRS and TIMI score for predicting in-hospital short-term prognosis after acute myocardial infarction. J Zhejiang Univ-SCI B. 2018;19(5):349–353.
9. Li H, Min J, Guo L. Clinical observation of the efficacy of ticagrelor and clopidogrel in the treatment of patients with ST segment elevation myocardial infarction after percutaneous coronary intervention. Pract Pharm Clin Remed. 2017;20(5):530–533.
10. Ding FM, Zhang LN, Zhang SY. Pathogenesis of non-coronary atherosclerotic acute myocardial infarction and diagnosis and treatment. Chin J Intern Med. 2016;55(8):654–656.
11. Chandrasekhar J, Baber U, Sartori S, Aquino M, Kini AS, Rao S, et al. Associations between complex PCI and prasugrel or clopidogrel use in patients with acute coronary syndrome who undergo PCI:from the PROMETHEUS study. Can J Cardiol. 2018;34(3):319–329.
12. Zhong YX. Clinical effect of clopidogrel in combination with aspirin in the treatment of acute myocardial infarction. Med Inform. 2017;30(10):78.