

## CILOSTAZOL DID NOT INDUCE ANY ADVERSE REACTIONS IN CORONARY ARTERIAL DISEASE (NON-ST ELEVATION MYOCARDIAL INFARCTION) WITH CONGESTIVE HEART FAILURE COMORBIDITY: A CASE REPORT

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### ABSTRACT

The study to monitor the adverse reactions related to cilostazol used in coronary arterial disease with congestive heart failure comorbidity. This case report describes monitored 63-year-old males with dyspnea that had recently begun using cilostazol after switched from aspirin caused by asthma related to aspirin. After 10 days monitored for adverse reactions of cilostazol used, revealed there was no adverse reaction to be related to cilostazol and the patient came home with improvement. Cilostazol did not show any adverse reactions in this report. However, more data and long-term monitoring will needed. In addition, biologic variations may influence. Therefore, need to determine which population do not affect the harm of cilostazol.

**Keywords:** Dyspnea, Cilostazol, Monitoring.

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### INTRODUCTION

Cardiovascular has been the leading cause of death in the world. Non-ST elevated myocardial infarct is formed of coronary arterial disease that constitutes the most common cause of cardiovascular death. In the absence of contraindications, all patient with non-ST elevated should be treated in the emergency department with intranasal oxygen (if oxygen saturation is low), aspirin, clopidogrel, sublingual nitroglycerin, oral  $\beta$ -blockers, and an anticoagulant (unfractionated heparin, enoxaparin, fondaparinux, or bivalirudin) [1]. Moreover, in another clinical trials experiment showed the combination of aspirin, clopidogrel, and cilostazol reduced of thrombotic complication in the primary and secondary prevention of heart attacks. In addition, this triple antiplatelet reduced long-term cardiac and cerebral events after percutaneous coronary intervention (PCI) [2]. Cilostazol is a phosphodiesterase III inhibitor (PDE III inhibitor) that has been approved by the FDA in 1999, the therapeutic target focus on cyclic adenosine monophosphate with the main effect is inhibited platelet aggregation (thrombosis), and dilation of the arteries contributes to supply blood to the legs [3-6]. Nevertheless, cilostazol contraindicated in patients with congestive heart failure and associated with increased mortality and adverse reactions such as cardiac arrhythmia, palpitation, tachycardia, and edema [3,7]. However, another PDE III inhibitors such as amrinone and milrinone are used in the treatment of heart failure [8]. Therefore, need closely monitored of cilostazole use in coronary arterial disease with heart failure comorbidity.

### CASE REPORT

In July 2016, a 63-year-old male presented to the hospital with dyspnea. 14 days before, he had experienced dyspnea and felt worse in 3 days ago. The patient had a history of well-controlled hypertension, post-PCI, and he was on anticoagulant therapy.

On the physical examination, the arterial blood pressure was 203/91, the heart rate was 109 mmHg, and the respiratory rate was 34/minute. Electrocardiography showed normal sinus rhythm, possible left atrial enlargement, inferior infarct, lateral

ischemia. Echocardiography revealed an ejection fraction of 28%. Computed tomography scan showed acute infarct cerebral and did not appear any hemorrhage.

Laboratory study revealed an activated partial thromboplastin time 23.2. Other test results were: hemoglobin - 10.4 g/dL; leukocyte -  $7.100/mm^3$ ; thrombocyte -  $287.000/mm^3$ ; hematocyte - 33%; troponin - 1 0.04 ng/ml; creatinine - 10.9; sodium - 138 mmol/L; potassium - 6.1 mmol/L; chloride - 111 mmol/L, casual plasma glucose - 253 mg/dL; pH - 7.15.

The patient was diagnosed with non-ST elevated myocardial infarct, hypertension, hypertension heart disease, congestive heart failure FC III-IV, chronic kidney disease, Type 2 diabetes mellitus, stroke, and the ejection fraction is 28%. At the time of his admission, his medications included farsorbid (2.5 mg/h), furosemide (5 mg/h), atorvastatin (once daily), lactulose (once daily), pantoprazole 40 mg intravenous (once daily), alprazolam (once daily), insulin 15 I.U. on dextrose 40%, calcium gluconas 4 g on dextrose 5%, losartan 50 mg (once daily 25 mg), calcium polystyrene sulfonate (TID), clopidogrel 75 mg (once daily if blood pressure <160 mmHg), aspirin 80 mg (once daily blood pressure <160 mmHg), and citcholine (BID 250 mg).

In the 2<sup>nd</sup> day, calcium gluconas 4 g on dextrose 5% was stopped. In the 3<sup>rd</sup> day aspiet switched to cilostazole (BID 50 mg), losartan suspended and gave an additional drug of sodium bicarbonate (TID 500 mg). In the 4<sup>th</sup> day, gave an additional ketocid (TID). In the 5<sup>th</sup> day, calcium polystyrene sulfonate (TID) was insulin 15 I.U. on dextrose 40% was stopped and gave an addition of insulin garglin 12 I.U. (once daily). In the 6<sup>th</sup> day, losartan was used again and gave an addition combination of salbutamol nebulizer and budesonide nebulizer. On the 8<sup>th</sup> day was gave an additional of amlodipine 5 mg (once daily). In the 9<sup>th</sup> day, furosemide was switched to hydrochlorothiazide 12.5 mg (once daily) and was gave an addition of insulin aspart (TID 8 i.u.).

On the last physical examination, before the patient came home, the arterial blood pressure was 162/84 mmHg, the heart rate was 79 mmHg, and the respiratory rate was 17 times per minute. Electrocardiography

showed normal sinus rhythm, possible left atrial enlargement, and inferior infarct. The symptoms of dyspnea were disappeared.

Laboratory study revealed an activated partial thromboplastin time is 40.3. Other test results were: Creatinine - 9.6; sodium - 138 mmol/L; potassium - 3.6 mmol/L, and chloride - 108 mmol/L, casual plasma glucose - 126 mg/dL.

Until 12 days hospitalizations and 10 days consumed of cilostazol, there was not showed any adverse reactions. The patient came home with improvement.

## DISCUSSION

In this present case reported switched of aspirin to cilostazol in the 3<sup>rd</sup> day caused there were contraindication for asthma-related aspirin and 10 days consumed of cilostazol were not showed any adverse reactions that to be related of cilostazol. In addition, the dyspnea was disappeared, and there were not any symptoms felt of patient.

Although the FDA publishes warning about cilostazol contraindicated with patients heart failure of any severity and several drugs with this pharmacologic effect, have caused decreased survival compared to placebo in patients with Class III-IV heart failure [9]. However, the same group of cilostazol like amrinone and milrinone is used in the treatment of heart failure [8]. In a study, comparing the effect of cilostazol and milrinone caused similar increases in cyclic adenosine monophosphate (cAMP) levels in human and rabbit platelets [10]. Inhibition of PDE III increase cAMP level cause dilation of smooth muscle, inhibition of platelet aggregation, contraction and increase heart rate, may this function improve the activity of the impair heart and blood circulation simultaneously. Therefore, need to determine which population do not affect the harm of cilostazol.

## CONCLUSION

Cilostazol did not show any adverse reactions in this report. However, more data and long-term monitoring will needed. In addition, biologic variations may influence. Therefore, need to determine which population do not affect the harm of cilostazol.

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