

A Case of Successful Primary Coronary Intervention for the Total Occlusion of Left Main Stem with the Aid of Abciximab

A 61-yr-old male patient presented with severe chest pain with cardiogenic shock due to an extensive anterolateral myocardial infarction. Two-dimensional echocardiogram showed severe left ventricular systolic dysfunction (ejection fraction=17%). Emergent coronary angiogram obtained immediately after placing temporary pacing electrode revealed total thrombotic occlusion in the left main stem. We performed direct coronary intervention using kissing balloon technique with the aid of Abciximab (ReoPro®) infusion. Residual stenosis with thrombus remained even after high pressure balloon dilatations, therefore we placed two stents, one in the ostia of left anterior descending (LAD) and the other in left circumflex artery (LCX). Coronary angiogram after kissing stents showed improved LAD and LCX flows without residual stenosis. Chest pain resolved and blood pressure normalized after coronary intervention. The whole procedure time was 15 min. Follow-up coronary angiogram taken one week later showed patent previous stented arteries, and echocardiography demonstrated 40% of left ventricular ejection fraction. The clinical course for one-year follow-up was uneventful.

Key Words : Coronary Intervention; Coronary Artery; Myocardial Infarction; Thrombosis

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INTRODUCTION

Total occlusion of left main stem is known to be a fatal coronary artery disease, usually manifested as a sudden cardiac death and acute myocardial infarction. After the introduction of percutaneous coronary intervention, a few cases have been reported for the successful management of patients' lives (1-3). However, long-term survival is relatively poor due to the time delay between onset of symptoms and revascularization (4). We hereby report a case of long-term survival after successful primary stenting for the total occlusion of left main stem with the aid of platelet glycoprotein IIb/IIIa receptor blocker.

CASE REPORT

A 61-yr-old male patient presented with severe chest pain. Blood pressure on admission was 70/30 mmHg and physical examination on chest revealed summation gallop and inspiratory crackles over both lower lung fields. Twelve-lead electrocardiogram demonstrated complete right bundle branch block, PR prolongation with left axis deviation, and ST-segment elevation over the precordial and lateral leads through V1 to V6, I and aVL (Fig. 1). Two-

dimensional echocardiogram showed severe left ventricular (LV) systolic dysfunction (ejection fraction=17%).

Emergent coronary angiogram obtained immediately after placing temporary pacing electrode revealed total thrombotic occlusion in the left main stem (Fig. 2A). We performed direct coronary intervention using kissing bal-

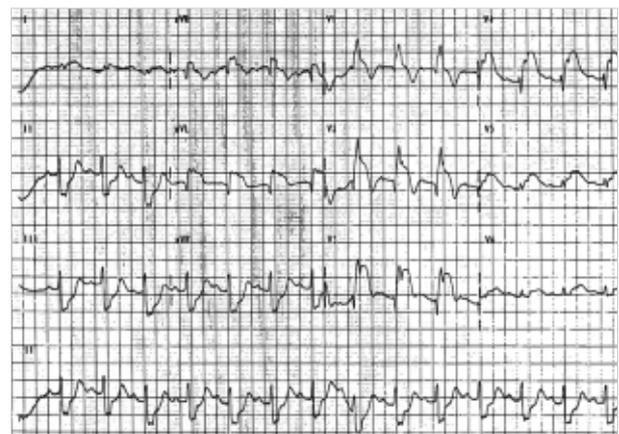


Fig. 1. Twelve-lead electrocardiogram demonstrates complete right bundle branch block, PR prolongation with left axis deviation, and ST-segment elevation over the precordial and lateral leads through V1 to V6, I and aVL.

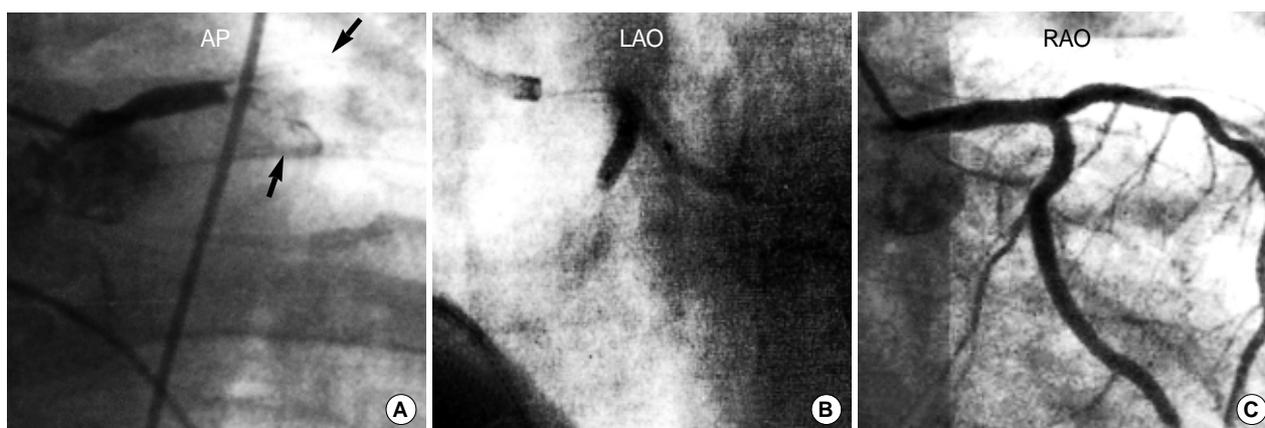


Fig. 2. (A) Emergent coronary angiogram obtained immediately after placing temporary pacing electrode reveals total thrombotic occlusion in the left main stem. Arrows indicate filling defects in the left anterior descending and circumflex arteries. (B) We performed direct coronary intervention using kissing balloon technique with the aid of Abciximab (ReoPro) infusion. Residual thrombus with stenosis remained even after high pressure balloon dilatations, and thus we placed two CrossFlex (Cordis, U.S.A.) stents, one in the ostium of left anterior descending artery (LAD) and the other in the ostium of left circumflex artery (LCX). (C) Coronary angiogram after kissing stents shows improved LAD and LCX flows without residual stenosis.

loon technique with the aid of Abciximab (ReoPro®) infusion. Residual thrombus with stenosis remained even after high pressure balloon dilatations, therefore two CrossFlex (Cordis, U.S.A.) stents were implanted, one (3.5 × 15 mm) in the ostium of left anterior descending artery (LAD) and the other (3.0 × 15 mm) in the ostium of left circumflex artery (LCX) at 12 atm (Fig. 2B). Coronary angiogram after kissing stents showed improved LAD and LCX flows (Thrombolysis In Myocardial Infarction Flow grade III) without residual stenosis (Fig. 2C). His chest pain was subsided and blood pressure normalized after coronary intervention. The whole procedure time was 15 min.

One week later, follow-up coronary angiogram showed that patent stented arteries and echocardiography demonstrated 40% of left ventricular ejection fraction. He has no major adverse cardiac events for following one year.

DISCUSSION

Acute occlusion of the left main coronary artery is a rare and serious coronary artery disease, and urgent coronary revascularization should be attempted for survival, especially in the patients without collateral circulation from right coronary artery (5-7). Survival after myocardial infarction due to the left main coronary artery occlusion is usually related with collaterals to the left coronary artery system. Emergent stenting for the left main coronary artery occlusion can be a life-saving procedure, but it can also be related with subacute stent thrombosis (8). Platelet glycoprotein IIb/IIIa receptor blocker in conjunction with primary coronary stenting for acute myocardial infarction complicated by cardiogenic shock has been used in the field of interven-

tional cardiology (9). It will be beneficial in the resolution of platelet thrombus formation and the improvement of microvascular perfusion during or after coronary intervention of acute myocardial infarction. We used Abciximab (ReoPro®) during coronary intervention in this case. The benefit of intra-aortic balloon pump (IABP) before primary percutaneous coronary intervention for acute myocardial infarction in the patients with left ventricular failure has been documented (10). In our case, we could not perform prophylactic IABP because of poor femoral pulse associated with severe hypotension.

In conclusion, long-term survival can be achieved in the patient with the left main total occlusion after primary stenting with the aid of platelet glycoprotein IIb/IIIa receptor blocker.

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