abdominal pain. Conservative treatment should be the rule where fertility preservation is mandatory.

References


Case Report

Left main coronary artery dissection during percutaneous coronary intervention in patient with chronic total occlusion

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Abstract

Catheter induced left main coronary artery dissection is a rare but well recognized life threatening complication of coronary angiography and angioplasty. We present a case of left main coronary artery dissection induced with a guide catheter while dealing with chronic total occlusion(CTO)and bailout stenting of left main and Left anterior descending(LAD) artery.

Introduction

Left main coronary artery(LMCA) dissection is rare but can pose life threatening complication during Percutaneous coronary intervention (PCI).1 LMCA dissection can occur spontaneously2, as a complication of aortic root dissection3 or can be iatrogenic.4 LMCA dissection is the threat for vessel closure. It can be precipitated by the manipulation of interventional hardware in the LMCA ostium.1 The conventional management of LMCA dissection is coronary artery bypass grafting (CABG) but bailout stenting has also been shown to be life saving in cases of acute LMCA occlusion.5

We present a case of guide catheter induced LMCA dissection dealing with CTO that resulted in symptoms and ECG changes with subsequent successful stent implantation of Left main (LM) and then Left anterior descending artery (LAD).

Case Report

The case of a 45 year old male with hypertension, diabetes mellitus and a 5-month history of exertional angina Functional class II-III, on Beta blockers, aspirin, clopidogrel, angiotensin receptor blockers and lipid lowering drugs is presented. Resting 12-lead electrocardiogram was within normal limits. Stress thallium at 4METS showed 2-mm ST-segment depression in all leads with reversible ischemia at apex, anterior wall and septum.

Coronary angiography showed totally occluded proximal segment with distal LAD filling via collateral from Left circumflex (LCx) and Right coronary artery(RCA)(Fig 1a). The decision was made to proceed with an intervention of the LAD.7Fr. left Judkins guide catheter (JL3.5) (Cordis) was used to cannulate the LMCA.PT2 guide wire (Boston scientific) was used to cross the lesion which at the exit of the lesion was unable to advance for which 1.5x10mm balloon monorail (Easyway 2, Cordynamic) was taken to support the wire for advancement. Over the wire (OTW) balloon was not

Figure 1-a, Totally Occluded LAD with Distal Segment Fills Via Collaterals
Figure 1-b, Left Main Dissection During Angioplasty.
available in Cath lab. The wire crossed up till the distal LAD. 7Fr. guiding catheter was deep throated to advance the balloon and inflated at 12 atm/15 secs. Left coronary artery (LCA) angiogram showed dissection of LM (Figure 1b). The patient started having chest pain with ST-segment depression on monitor. 4.0x16 (Taxus Liberte) (Boston Scientific) stent was deployed in left main at 18 atm/10 secs. Symptoms were relieved and ST-segment was normalized (Fig 2a). LAD was dilated with 2.5x20 mm balloon (Maverick) (Boston Scientific) and stent 2.75x32 mm (Taxus Liberte) deployed at 16 atm/15 secs (Figure 2b).

Patient was shifted to coronary care unit where after removal of sheath Subcutaneous Enoxaparin 80 mg s/c was given for three days in addition to clopidogrel and aspirin. On discharge patient was asymptomatic with no ECG changes and CPK was not elevated. At 3-month follow up patient was free of angina.

Discussion

LMCA dissection induced by catheter is an uncommon but serious complication of diagnostic coronary angiography and percutaneous coronary intervention. The incidence of iatrogenic LMCA dissection is 0.02–0.35%. Careful techniques that can minimize iatrogenic dissection include avoiding deep throating of guiding catheters (especially 7 Fr.,& 8 Fr.) as in our case (7 Fr.) guider and maintaining a steady tension on guiding catheter while balloon is withdrawn or pushed forcefully. OTW balloon should be used while dealing with CTO for better support of guide wire, crossability of lesion and to check distal segment after crossing the lesion.

It is also important to check pressure before every coronary injection. If ventricularized pressure waveform observed catheter manipulation or further injection of dye should not be given till normal waveform is observed.

The management of left main dissection can be conservative, percutaneous intervention or bypass surgery. Alfonso suggested a conservative approach in haemodynamically stable patients with low grade dissection. Haemodynamically instability is a clear indication for intervention. LMCA dissection which has aortic involvement of 40 mm or more from the coronary ostium can require surgical intervention while percutaneous strategy in the form of stenting of coronary dissection entry point is reserved for limited aortic involvement. Lee reported a small number of patients with catheter induced LMCA dissection with stenting of left main artery and was found to be safe and feasible.

Conclusion

In our case LMCA dissection occurred after deep throating of 7 Fr. guide catheter while addressing chronically totally occluded LAD with haemodynamically compromise for which successful bailout stenting was done for the LM followed by LAD.

References