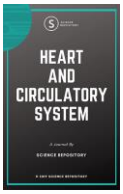

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Case Series

Surgical Management for Acute Occlusion of the Left Main Coronary Artery Stenosis: A Case Series

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ABSTRACT

There is growing global attention concerning the short and long term prognosis of acute coronary syndrome (ACS) in patients with prior coronary artery bypass grafting (CABG). Significant left main coronary artery (LMCA) disease occurs in 5%-7% of patients undergoing coronary angiography, which is associated with a worse prognosis. We report a series of 3 patients presenting with LMCA disease out of which one patient successfully underwent CABG, and two patients managed with optimal medical therapy.

Introduction

The various anatomic types of obstructive coronary artery disease (CAD), significant left main coronary artery (LMCA) disease is the highest risk lesion subset and is associated with poorer clinical outcomes compared with the non-LMCA disease [1]. Based on early clinical trials demonstrating a definite survival benefit of coronary artery bypass grafting (CABG) over medical therapy [2]. CABG has been the standard of care for the revascularization of significant LMCA disease for a long time. Percutaneous coronary intervention (PCI) was performed on a limited basis, mostly in surgically ineligible patients. PTCA for LMCA disease has become technically feasible and shows favourable clinical outcomes [3].

Case Profile

We report a case series of 2 male and one female patient aged 40-60 years, of which two patients had Anterior Wall Myocardial Infarction [AWMI] and one patient had Non-ST-elevation myocardial infarction [NSTEMI]. Table 1 shows the demographic characteristics of the patients. There was no history of smoking and bleeding disorders in the family; routine blood examinations, chest X-ray, coagulation profile & comprehensive metabolic panel were normal. All three patients underwent coronary angiography, which revealed a total occlusion of LMCA, which was filling retrogradely from the right coronary artery. Subsequently, one patient underwent coronary artery bypass surgery [CABG], one patient was not willing for CABG, and one patient was medically managed as MPI revealed nonviable myocardium (Table 2). All the patients started given dual antiplatelet therapy and followed-up for 1year.

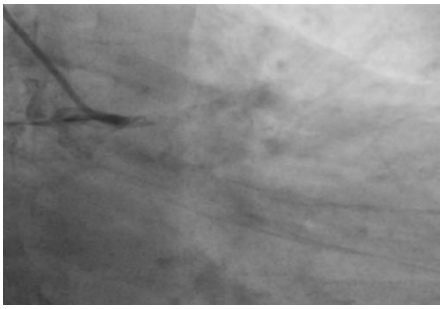

Figure 1A: Left coronary angiography showing LMCA total occlusion.

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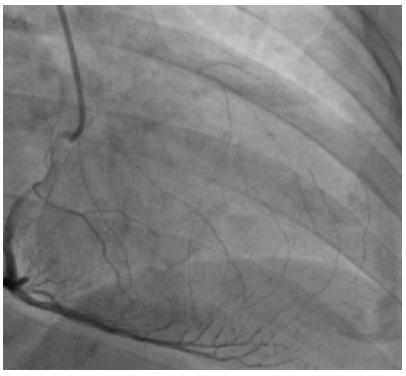

Figure 1B

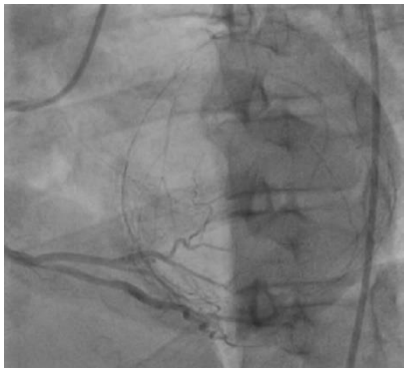

Figure 1C

Figure 1B & 1C: Right Coronary angiography showing dominant RCA and retrograde filling.

Table 1: Demographic characteristics of the patients.

Patient No	Age (years)	Sex	Presenting complaints	H/o DM/HTN	ACS
I	45	M	Chest Pain	Yes	AWMI
II	60	M	Chest pain	Yes	AWMI
III	55	F	Breathlessness	No	NSTEMI

Table 2: Angiographic & Management profile.

S No.	Lesion	Thrombolysis	MPI	Revascularization	Results	Figures
1	LMCA Total occlusion	Yes	Non-transmural infarcts in the anterior wall, anteroseptal wall and apex septum is well perfused	Medical management	Good	1A, 1B & 1C
2	LMCA Total occlusion	Yes	Reversible Inducible Ischemia saw in the anterior wall anteroseptal and apex septum	CABG	Good	2A, 2B & 2C
3	LMCA Total Occlusion	No	Reversible Inducible Ischemia has seen in the anterior wall anteroseptal and apex septum	CABG not willing Continued on Medical management	Good	3A, 3B & 3C

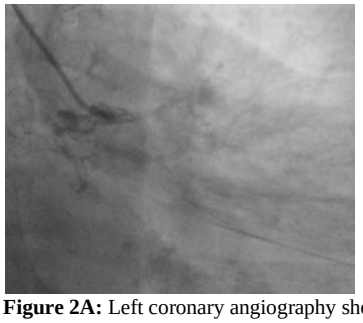

Figure 2A: Left coronary angiography showing LMCA total occlusion.

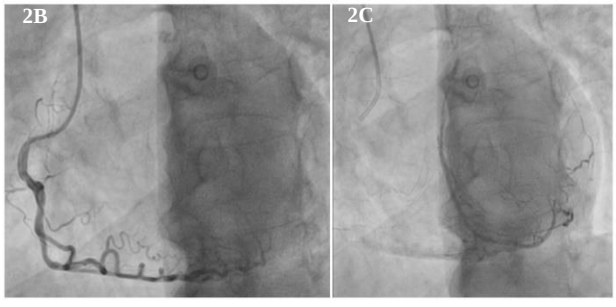

Figure 2B & 2C: Right Coronary angiography showing dominant RCA and retrograde filling.

Figure 3A: Left coronary angiography showing LMCA total occlusion.

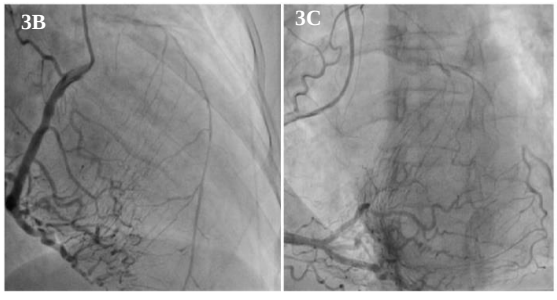

Figure 3B & 3C: Right Coronary angiography showing dominant RCA and retrograde filling.

Discussion

Acute coronary syndrome (ACS) is a significant cause of death and morbidity among coronary artery disease patients. In recent years, the treatment of ACS patients has significantly improved, leading to a decrease in in-hospital and long-term mortality [4]. Coronary artery bypass graft (CABG) was broadly introduced in the 1970s, and since then has become one of the most common surgical procedures [5]. Despite successful revascularization and secondary prevention measures, the progression of atherosclerosis after CABG occurs both in grafts and native coronary arteries, resulting in significant morbidity and mortality, especially in patients who present with acute coronary syndromes (ACS) [6]. The Timing of surgical revascularization after acute myocardial infarction (AMI) is still controversial. Emergency CABG is recommended in patients who attempt at PCI have been unsuccessful, have signs of ischemia despite optimal medical treatment, and have complications of AMI [7].

Conclusion

The performance of CABG during the index hospitalization for ACS seems to represent a short-term mortality benefit. We conclude that early CABG should be considered more often in eligible ACS patients.

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