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

Case Series

Figure 1A: Left coronary angiography showing LMCA total occlusion.
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Figure 1B & 1C: Right Coronary angiography showing dominant RCA and retrograde filling.

Table 1: Demographic characteristics of the patients.

<table>
<thead>
<tr>
<th>Patient No</th>
<th>Age (years)</th>
<th>Sex</th>
<th>Presenting complaints</th>
<th>H/o DM/HTN</th>
<th>ACS</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>45</td>
<td>M</td>
<td>Chest Pain</td>
<td>Yes</td>
<td>AWMI</td>
</tr>
<tr>
<td>II</td>
<td>60</td>
<td>M</td>
<td>Chest pain</td>
<td>Yes</td>
<td>AWMI</td>
</tr>
<tr>
<td>III</td>
<td>55</td>
<td>F</td>
<td>Breathlessness</td>
<td>No</td>
<td>NSTEMI</td>
</tr>
</tbody>
</table>

Table 2: Angiographic & Management profile.

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

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.

REFERENCES