

## Contemporary Unprotected Left Main PCI in Patients with AMI: Insight from KAMIR

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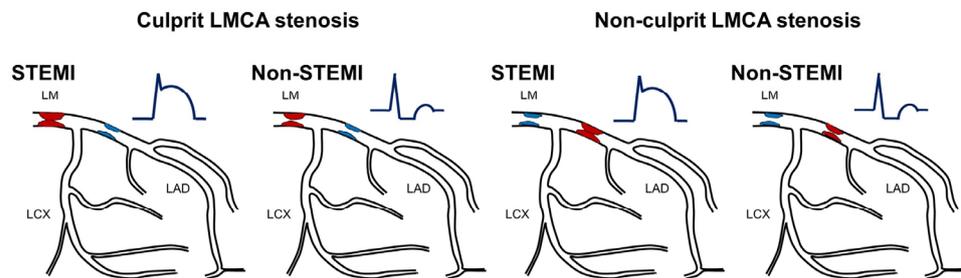
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**Background/Aims:** Limited data is available on clinical characteristics and outcomes in patients with culprit or non-culprit LMCA stenosis. The aim of this study is to compare treatment pattern and outcome between ST-segment elevation myocardial infarction (STEMI) and non-STEMI according to culprit and non-culprit left main coronary artery (LMCA) stenosis.

**Methods:** We examined 572 patients with LMCA stenosis from the Korean Acute Myocardial Infarction Registry–National Institute of Health database. Major adverse cardiac and cerebrovascular events (MACCE) were defined as all-cause death, nonfatal myocardial infarction (MI), repeat revascularization, cerebrovascular accident, rehospitalizations, and stent thrombosis.

**Results:** In patients with culprit LMCA stenosis, cardiogenic shock (50.5% vs. 12.1%;  $p < 0.001$ ) and use of mechanical hemodynamic support (48.5% vs. 11.0%;  $p < 0.001$ ) were significantly greater in STEMI than in non-STEMI. In-hospital mortality (32.3% vs. 8.1%,  $p < 0.001$ ) and 2-year MACCE (50.5% vs. 36.4%; log-rank  $p = 0.003$ ) were significantly higher in STEMI (Figure). Intravascular ultrasound improved outcomes of culprit LMCA stenosis (25.4% vs. 54.6%, log-rank  $p < 0.001$ ). Hypertension, acute kidney injury, multi-organ failure, and cardiopulmonary resuscitation were independently associated with MACCE in STEMI. In patients with non-culprit LMCA stenosis, there were no significant differences in MACCEs between STEMI and non-STEMI (21.3% vs. 20.8%, log-rank  $p = 0.743$ ). Concurrent percutaneous coronary intervention (PCI) for non-culprit LMCA stenosis during PCI for other culprit vessel segments improved MACCEs in non-STEMI (16.7% vs. 31.9%; log-rank  $p = 0.024$ ), but not in STEMI.

**Conclusions:** PCI for culprit LMCA stenosis is challenging in both STEMI and non-STEMI despite appropriate mechanical hemodynamic support. Concurrent PCI for non-culprit LMCA stenosis in STEMI does not improve MACCEs.



|                              | STEMI | Non-STEMI | STEMI | Non-STEMI |
|------------------------------|-------|-----------|-------|-----------|
| <b>Cardiac complications</b> |       |           |       |           |
| Cardiogenic shock            | +++++ | ++        | ++    | ++        |
| VT requiring DC shock        | +++   | +         | +     | +         |
| VF                           | ++    | +         | +     | ±         |
| <b>Hemodynamic support</b>   |       |           |       |           |
| CPR                          | +++++ | ++        | ++    | ++        |
| IABP                         | ++++  | +         | +     | +         |
| ECMO                         | +++   | +         | ±     | +         |
| TPM                          | +     | +         | +     | +         |
| <b>Outcome</b>               |       |           |       |           |
| In-hospital mortality        | ++++  | +         | +     | +         |
| MACCEs at 2 year             | +++++ | ++++      | +++   | +++       |