Impact of main branch selection on clinical outcomes after percutaneous coronary intervention for unprotected left main coronary artery disease: a substudy from the DELTA registry.

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Background: In the setting of PCI for ULMCA disease, left anterior descending artery (LAD) is generally considered the main branch. However, whether the choice of LAD over LCX as main branch has a significant impact on clinical outcomes has not yet been ascertained.

Methods: Between April 2002 and April 2006, a total of 2775 patients were included in the DELTA registry. 1,874 were treated with PCI versus 901 with CABG. Of the percutaneous group, we selected only those patients who had distal left main disease and complete information about stenting technique. After 1:1 propensity-score matching was performed, matched pairs of patients were selected and analyzed.

Results: In total 276 patients were included in the analysis: in 138 cases the selected main branch was the LAD (LM-LAD) and in 138 cases was the LCX (LM-LCX). Clinical, angiographic and procedural characteristics in the matched groups were similar. Mean EuroSCORE and SyntaxSCORE in the LM-LAD and LM-LCX groups at 1478 days was 51.2% (p<0.01) and free survival rate in the LM-LAD and LM-LCX groups at 1478 days was 60.4% vs 59.5% (p=0.56). Incidence of adverse events at follow-up (median: 1098 days; IQR 396-1478) are reported in Table 1. MACCE-free survival rate in the LM-LAD and LM-LCX groups at1478 days was 60.4 % vs 51.2 % (p=0.012). When stratified by stent strategy (1 vs 2 stent technique), the significant advantage of the LM-LAD subgroup in terms of death, TLR, TVR and MACCE was confirmed in patients who were treated with a 2 stent technique while no difference between groups was found when a single stent strategy was considered.

Conclusions: In this series of matched patients with ULMCA disease, the choice of LAD over LCX as main branch was correlated with a significantly lower incidence of death, TLR, TVR and MACCE at long term FU. This advantage was substantial when a two stent strategy was considered.

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Results: In total 276 patients were included in the analysis: in 138 cases the selected main branch was the LAD (LM-LAD) and in 138 cases was the LCX (LM-LCX). Clinical, angiographic and procedural characteristics in the matched groups were similar. Mean EuroSCORE and SyntaxSCORE in the LM-LAD and LM-LCX groups were 5.3±3.2 vs 5.5±3.6 (p=0.34) and 29.7±10.8 vs 28.9±10 (p=0.56). Two stent strategy was used in 57.2% vs. 53.6% of cases (p=0.56). Incidence of adverse events at follow-up (median: 1098 days; IQR 396-1478) are reported in Table 1. MACCE-free survival rate in the LM-LAD and LM-LCX groups at1478 days was 60.4% vs 51.2% (p=0.012). When stratified by stent strategy (1 vs 2 stent technique), the significant advantage of the LM-LAD subgroup in terms of death, TLR, TVR and MACCE was confirmed in patients who were treated with a 2 stent technique while no difference between groups was found when a single stent strategy was considered.

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