



Clinical and Angiographic Outcomes of Patients Undergoing Reverse Hybrid Revascularization.

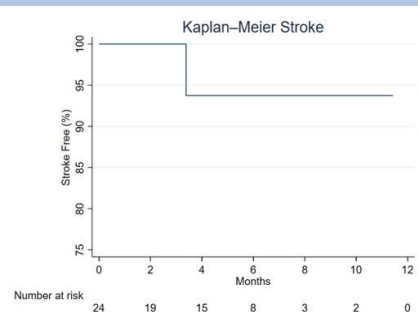
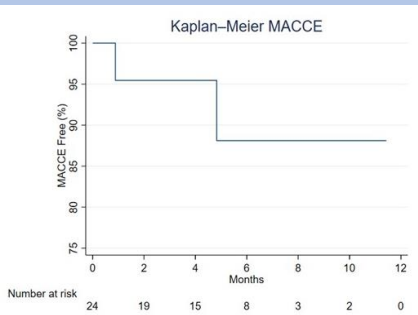
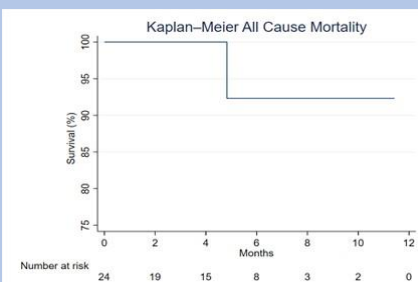
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BACKGROUND

We aim to analyze long-term clinical outcomes of robotic-assisted reverse hybrid coronary revascularization (HCR).

METHODS

All consecutive 285 patients that underwent reverse robotic-assisted HCR between 09/2005-07/2021 are included. Reverse HCR consists of percutaneous coronary intervention (PCI) with stent implantation in non-left anterior descending (LAD) coronary artery vessels performed within 30-days *prior* to robotic-assisted left internal thoracic artery (LITA) harvesting and LITA to LAD anastomosis through a 4-cm left minithoracotomy. Dual antiplatelet therapy was not interrupted on any patient.



PCI-percutaneous
coronary intervention

Variables	Reverse Hybrid Revascularization N=50
Repeat Surgical Interventions n (%)	0
PCI with DES for at least 1 non-surgical target vessel disease	36/50 (72%)
Repeat PCI on LITA-LAD surgical Target n (%)	6 (12%)
Repeat PCI on LAD occluded in-stent n (%)	0
Repeat PCI on RCA for in-stent occlusion n (%)	8 (16%)
Repeat PCI on previous Diagonal surgical target n (%)	2 (4%)
Repeat PCI on Diagonal for in- stent stenosis n (%)	0
Repeat PCI on RAMUS/OM previous surgical Target n (%)	1 (2%)
Repeat PCI on RAMUS/OM for in-stent stenosis n (%)	4 (8%)
New PCI on RAMUS/OM new disease/stenosis n (%)	19 (38%)
New PCI on new LAD for new disease/stenosis n (%)	6 (12%)
New PCI on RCA for new disease/stenosis n (%)	17 (34%)
New PCI on Diagonal for new disease/stenosis n (%)	4 (8%)

RESULTS

Prior to surgery, a total of 168 patients received 1 stent, 112 patients 2 stents, and 5 patients 3 stents. Intraoperatively, mean OR time was $5.9 (\pm 1)$ hours, no case was converted to full sternotomy. Postoperatively, a low incidence of non-fatal stroke 1 (0.3%), reoperation for bleeding 7 (2.4%), blood product transfusions 48 (16.8%), and hospital stay (4.8 days) was observed. At 30-day follow-up, 1 (0.3%) patient underwent PCI with stent on a surgical LITA-LAD anastomosis. Mean follow-up was 4.2-years. Reported long-term outcomes included all-cause death in 31 patients (10.9%), MACCE in 102/285 (35.9%), nonfatal stroke in 2/285 (0.7%), MI in 17/285 (5.9%), repeat intervention in 50/285 (17.5%) with 16/50 (32%) requiring repeat intervention on previous target lesions.

CONCLUSION

This single center study reports effective and safe clinical outcomes at long-term follow-up of reverse HCR procedures for treatment of multivessel coronary artery disease.