Royal Brompton and Harefield hospitals

NHS

A Retrospective Analysis Of 20 Years Single Institution Data Of Hybrid Coronary Artery Revascularization

Maria Cannoletta, Richard Trimlett, Rashmi Yadav, Anthony De Souza

Royal Brompton & Harefield NHS Foundation Trust, London, United Kingdom

BACKGROUND

Endoscopic atraumatic coronary artery bypass surgery (EndoACAB) is a relative new procedure performed in specialist centers. In our institution, this technique is often combined with percutaneous coronary intervention as part of a "hybrid" coronary revascularization approach to achieve complete revascularization for multivessel coronary artery disease. Here, we report our institution results of hybrid coronary revascularization.

METHODS

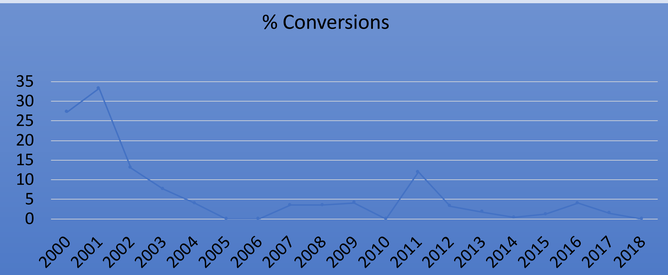
Retrospective review of single center cardiac surgery database over a period of 20 years and 11 months. Patient characteristics, post-operative complications and in hospital mortality are reported.



(a) Post EndoACAB angiogramdemonstrates LIMA to LAD graft patency

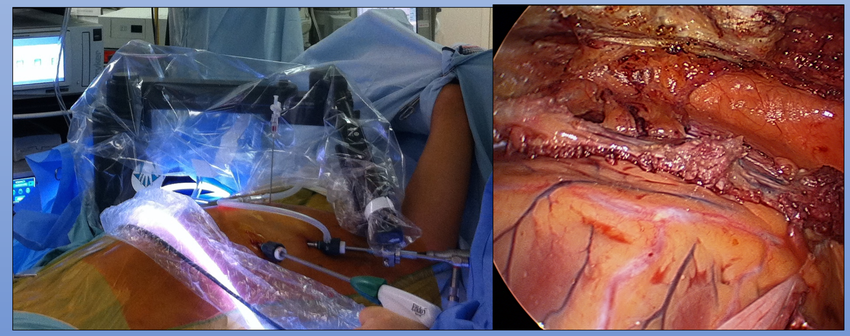
RESULTS

Between January 2000 to November 2021, a total of 932 patients underwent Endoacab in our institution, in 339 of the cases (36.4%) in combination with PCI to non-LAD lesions to achieve complete revascularization. Within the hybrid group, 17.9% of the patients (n=61) underwent a “reverse hybrid” procedure, with PCI performed acutely to the culprit lesion followed by EndoACAB with a LIMA to LAD at a later date. In 215 patients (63.4%) 1 vessel was treated with PCI, in 113 patients 2 vessels were treated (33.3%) and in 11 patients more vessels were treated (3.2%). In our series, there were 1.5% conversions to sternotomy(n=5/339), 1 procedure was abandoned and PCI was performed instead. Hospital mortality was 1.18% (n=4/339) in a group of high risk patients. The most common complication was atrial fibrillation experienced by 10.6% of the patients (n=36/339). 4.4% presented acute kidney injury (n=15/339), 1.5% of the patients had significant wound infections (n= 5), all of this in female with high BMI and diabetes. In 2.6% (n=9) of the cases Lima to LAD anastomosis required required PCI for occlusion or irregularities. We had one case of emergency sternotomy during PCI as second part of complete revascularization.

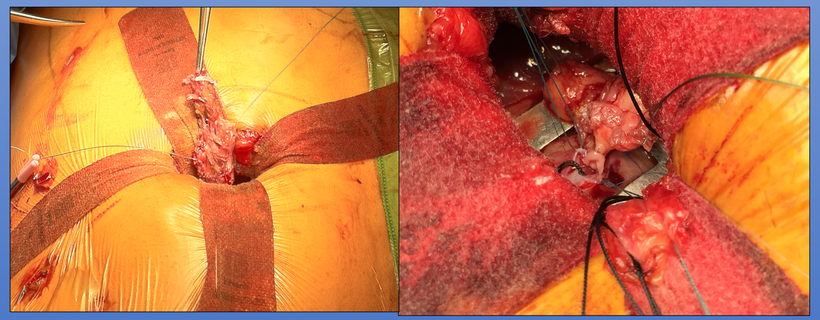


CONCLUSIONS

We demonstrated that hybrid coronary revascularization can effectively treat multivessels coronary disease with results from a large series. Mortality cases occurred in high risk cases subgroup.



(b, c) Robotic left internal mammary harvesting



(d, e) Preparation and set up of LIMA (A, B) and anastomosis of LIMA to LAD

22 ISMICS Warsaw ANNUAL SCIENTIFIC MEETING
Innovation, Technologies, and Techniques in Cardiothoracic and Cardiovascular/ Vascular Surgery
16-18 June 2022 Hilton Warsaw City Warsaw POLAND
International Society for Minimally Invasive Cardiothoracic Surgery
www.ISMICS.ORG