Endoscopically-assisted Coronary Bypass Grafting in Left Anterior Descending Revascularization

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EndoACAB – Endoscopically Assisted Coronary Artery Bypass

EndoACAB

ADVANTAGES
- Arterial graft
- Non sternotomy
- Minimally pain syndrome
- Fast period of rehabilitation

DISADVANTAGES:
- Long learning curve
- Endoscopically technique

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EndoACAB vs MIDCAB for LAD Revascularization

AIM:

To evaluate and compare the safety and effectiveness of EndoACAB and MIDCAB techniques in single-vessel LAD lesion.

Inclusion creteria:
- Isolated LAD lesions available for both EndoACAB and MIDCAB revascularization
- Suitable candidate for both EndoACAB and MIDCAB

Exclusion creteria:
- Previous cardiac surgery, including CABG
- Previous thoracic surgery involving the left pleural space
- Acute chronic comorbidities

Patient (n 100)
RANDOMIZED 1 : 1

Enrollment

EndoACAB (LIMA – LAD) (n 35)

MIDCAB (LIMA – LAD) (n 32)

Allocation

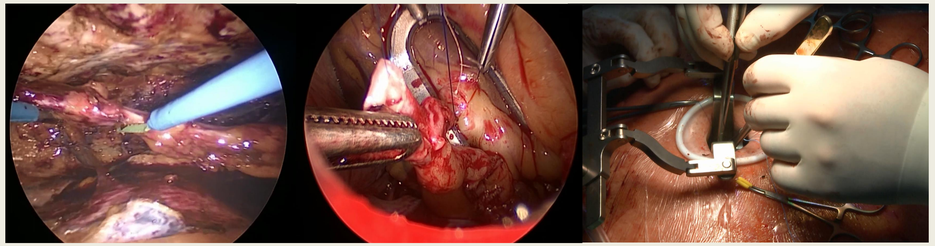
Evolution of results after 6 month and 1,3,5 year

Follow-up

Primary endpoints:
- MACCE
- Unplanned revascularization

Secondary endpoints:
- Conversion
- Bleeding in the postoperative period
- Pain syndrome
- Quality of life of the patient

1. Endoscopically LIMA harvesting trough thoracoscopic miniports (VATS).
2. Direct vision anastomosis.
3. Distal anastomosis performed “off-pump” with myocardial stabilization LIMA –LAD.



RESULTS:

BASELINE Characteristics

Variable	EndoACAB (n=35)	MIDCAB (n=32)	P value
Female, n (%)	18	14	> 0,2
Age, y, mean, SD	56,5±6,8	57±6,3	> 0,4
BMI, kg/m^2, mean, SD	30±3,5	30±3,4	> 0,4
Hypertension, n (%)	79 (59)	66 (73,3)	> 0,06
EuroSCORE II, mean, SD	2,41±0,37	2,03±0,24	> 0,4
Myocardial infarction	11	9	> 0,2
PCI LAD, restenosis	8	10	> 0,2
Stenosis LAD	26	24	> 0,2
Occlusion LAD	9	8	> 0,4

BASELINE CHARACTERISTICS: NO STATISTICAL DIFFERENCE

PROCEDURAL DATA

Variable	EndoACAB	MIDCAB	P value
Total procedure time, min,mean, SD	182,3±28,5	168,2±44,5	<0,0001
LIMA harvesting time, min, mean, SD	38,3±18,5	49,32±15,7	<0,0001
Using intracoronary bypass, min, mean, SD	10,2±3,3	11,4±3,1	<0,05
Blood Loss, ml	55±30	65±40	<0,05

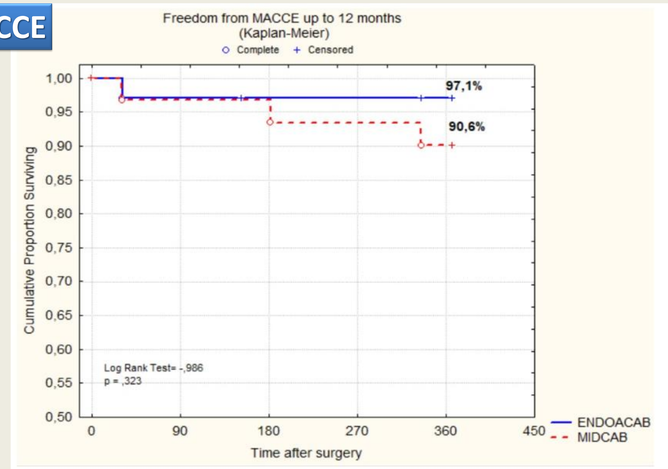
Primary & Secondary endpoints (IN-HOSPITAL)

Variable	EndoACAB	MIDCAB	P-value
Primary Endpoints:			
Death	0	0	-
MACCE	0	0	
Unplanned revascularization	0	0	
Secondary Endpoints:			
Drainage blood loss, ml, mean, SD	218±103,3	282±112,4	<0,0001
Conversion, n	2	5	0,04
Pain syndrome, (VAS)	2±1	5±1	0,04
Hospital state	5±2	5±2	<0,05

1 YEAR RESULTS

Variable	EndoACAB	MIDCAB	P value
Return Angina Pectoris	1	2	
Myocardial infarction	1	3	-
Repeated revascularization	0	1	-
Death	0	0	

MACCE



CONCLUSION:

Minimally invasive endoscopic-assisted myocardial revascularization results were comparable to the MIDCAB results during 1 year result.