Short- and long-term results after Minimally Invasive Coronary Artery Bypass Grafting operations

Jan Rychter[1], Roch Pakuła[1], Michał Skrzypek[2], Daniel Cieśla[3], Mariusz Gąsior[4], Michał Zembala[5], Tomasz Hrapkowicz[1]

1. Department of Cardiac, Vascular and Endovascular Surgery and Transplantology, Medical University of Silesia in Katowice, Silesian Centre for Heart Diseases, Zabrze, Poland
2. Department of Biostatistics, Faculty of Public Health, Medical University of Silesia, Katowice, Poland
3. Department of Science, Training and New Medical Technologies, Silesian Centre for Heart Diseases, Zabrze, Poland
4. 3rd Department of Cardiology, Medical University of Silesia in Katowice, Silesian Centre for Heart Diseases, Zabrze, Poland
5. Department of Cardiac Surgery, Heart and Lung Transplantation and Mechanical Circulatory Support, Silesian Centre for Heart Diseases, Zabrze, Poland

1. Background:

Coronary artery bypass grafting (CABG) despite the rise of percutaneous coronary intervention (PCI), remains the treatment of choice for selected patients with coronary artery disease (CAD).

For patients suffering from single-vessel disease of the LAD minimally invasive direct coronary artery bypass (MIDCAB) was developed. Through a small left anterior thoracotomy, the left internal mammary artery (LIMA) can be harvested under direct vision. The evaluation of MIDCAB is Endoscopic Assisted Coronary Artery Bypass (EACAB), where LIMA is harvested using an endoscope.

In this study, we review our experience with 387 MIDCAB and EACAB operations. The focus is on long-term outcome with 8 years of follow-up.

2. Aim:

We will present long term all-cause mortality, and occurrence of major adverse cardiac and cerebrovascular events (MACCE): angina pectoris (AP), myocardial infarction (MI), stroke, percutaneous coronary interventions (PCI) and reoperation (reCABG).

3. Materials and methods:

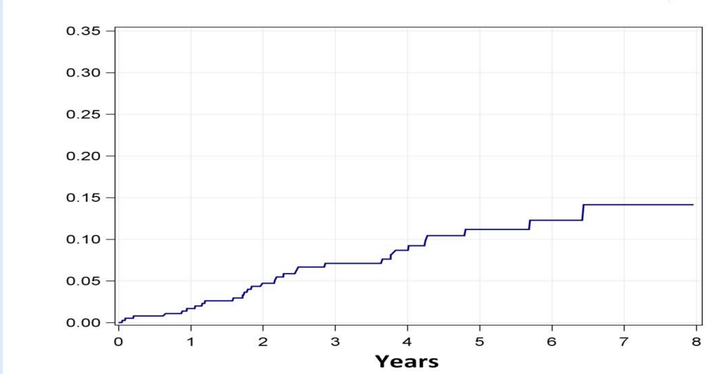
From 1 January 2008 to 1 January 2016 in our center we performed 51 MIDCAB and 336 EACAB procedures (in summary 387). Mean age was 62,88 ± 10,34 years, mean ejection fraction was 50.0%. Most of patient (46.95%) was in class II according to CCS grading of angina pectoris. The 25.3% of study population were women.

For long- term survival and MACCE free survival, Kaplan– Meier analysis was performed.

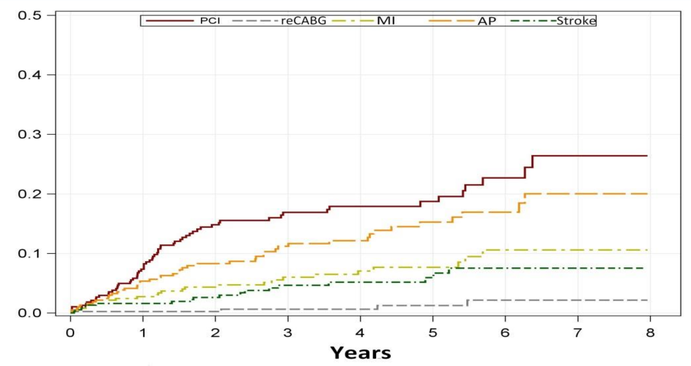
To assess the role of risk factors for long- term outcome Cox regression analyze was performed.

4. Results:

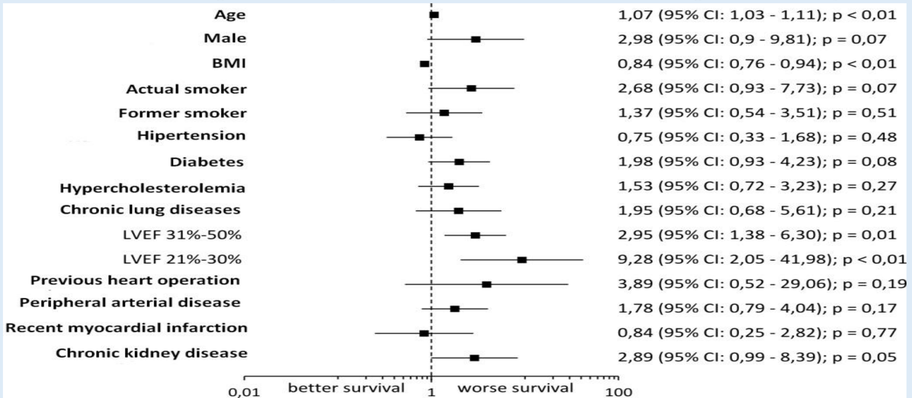
Kaplan Mayer curve describing the probability of death in long term fallow-up



Kaplan Mayer curves describing the probability of occurrence angina pectoris, myocardial infarction, stroke, PCI and reCABG in long term fallow-up



Univariant Cox regression analyze to assess the role of risk factors for long- term mortality



5. Conclusions:

Our study shows that MIDCAB and EACAB operations are safe and efficient procedures for patients with single vessel disease.

It is associated with low complication rate and good long- term results.