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*Results of coronary arteries bypass grafting in patients  
over 70 years old*

Dynamic development of coronary arteries surgery, anesthesiology and extra-body circulation techniques makes criteria for qualifying patients for cardiosurgical operations change. Until quite lately due to serious danger of death and other post-operation complications, in patients over 70 years old coronary arteries bypass grafting was performed in the case of unstable angina or because of other life indications, as there was a conviction of too high risk for the patient's life when they are over 70. Therefore, the only choice was conservative treatment.

At present, according to the increase of average age in modern societies, the patients who are over 70 and require coronary arteries reconstruction constitute a constantly growing group.

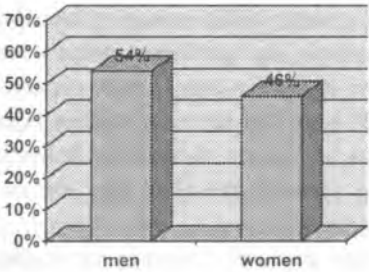
Literature data indicate that the results of such operations are satisfactory because ailments get reduced and even disappear after the performed operation, which causes the increase in patients' activity leading to the improvement of the quality of life.

MATERIAL AND METHODS

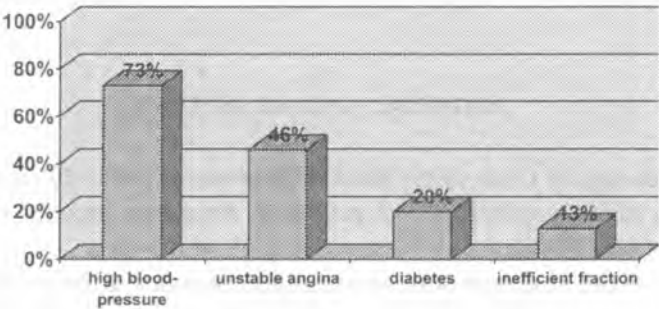
In the Cardiosurgical Clinic of the Medical University of Lublin 30 coronary arteries bypass grafting (CABG) operations were performed. Among the patients, women constituted 46%, and men 54%.

The aim of the research was to examine coronary arteries bypass grafting results considering the risk factors according to Euroscore scale in the patients aged over 70 years:

- age	
for each 5 years > 50 years of age	1 pnt
- females	1 pnt
- chronic pulmonary disease	1 pnt
- peripheral vascular disease	2 pnts
- neurological defect	2 pnts
- reoperation	3 pnts
- creatinine > 200 $\mu$ mol/l	2 pnts
- active viral hepatitis	3 pnts
- critical preoperative state	3 pnts
- unstable angina NTG iv	2 pnts
- left ventricular function	
EF 30-50	
EF < 30	
- myocardial infarction < 90 days	2 pnts
- pulmonary artery PA > 60	2 pnts
- PASP	
urgent operation	2 pnts
operation other than isolated CABG	2 pnts
operation of thoracic aorta	3 pnts
ventricular rupture IVS	4 pnts



In the examined group of patients the most frequent risk factors were the following: hypertension (73%), unstable angina (46%), diabetes (20%), and inefficient ejection fraction (13%).



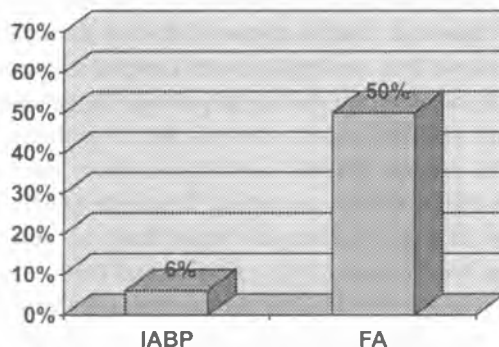
Patients were qualified for operation on the basis of clinical examination and changes in coronary arteries showed in coronarography. The operations were performed using extra-body circulation in 34°C hypothermia. The heart was stopped with cardioplegia solution introduced to the bulb of aorta. Peripheral bypass grafting was made at the

clamped ascending aorta, and aortal grafting on the beating heart. Saphenous vein and (in 13% of cases) LIMA were used for bypass grafting. The data necessary for postoperation estimation were received from the survey sent to the patients.

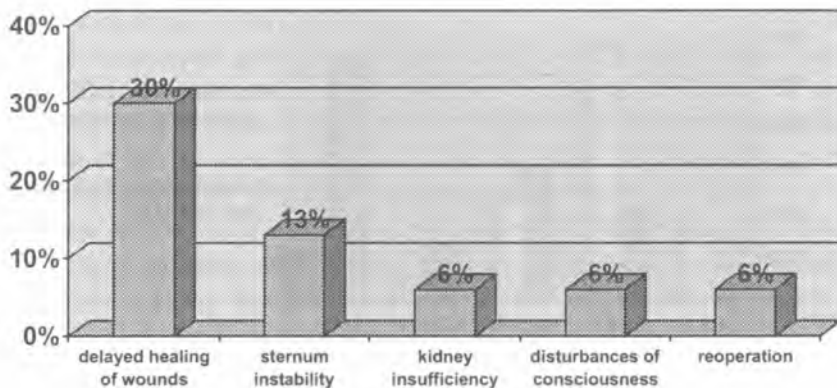
## RESULTS

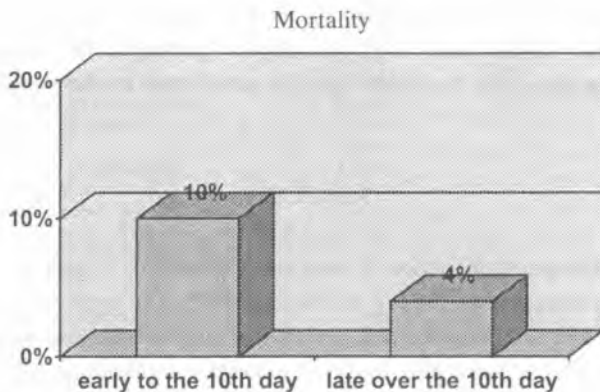
In the early postoperation period 3 patients died (10%), 2 patients (6%) required applying mechanical support of the left ventricle (IABP). The most frequent disturbance of rhythm observed in the postoperation period was atrial fibrillation, which appeared in 15 patients (50%). There were also observed general complications not concerning the heart, such as: delayed healing of postoperational wounds, in 10 patients (30%), sternum instability in 4 patients (13%), kidney insufficiency in 2 patients (6%), and disturbances of consciousness in 2 patients (6%). Two patients (6%) needed reoperation because of excessive drainage in the immediate postoperational period. Extent brain insultus was the cause of one death (3%), and severe respiratory insufficiency caused one death (3%) too.

Cardiac complications



Non-cardiac complications

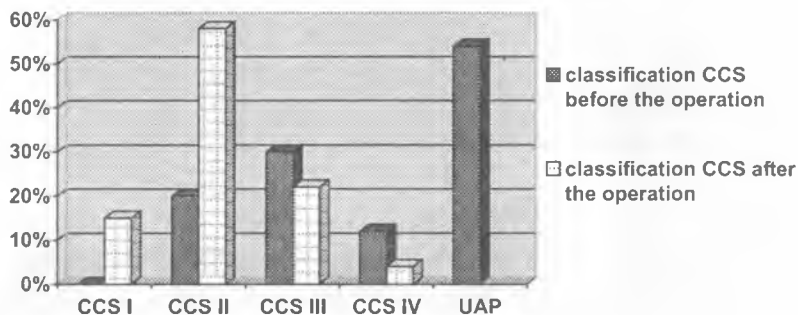




In most patients after CABG relief of chest pain and improvement of effort efficiency were observed.

In patients over 70 years of age after CABG significant improvement of the quality of life is noticed in comparison with the preoperation period, despite the increased operation risk.

Out of 27 patients undergoing CABG 1 person (3.7%) died after leaving the hospital on 27th day after the operation. Only 1 person (3.8%) of the other 26 patients is still using nitroglycerin, does not feel any improvement compared with the preoperation period, often stays in bed and does not do any housework, 21 patients (80%) do not feel any pain, and 17 patients (65.3%) conduct active life but 10 of these – without any significant physical effort. 15 patients (57.6%) are able to cover the distance of 1000 m, 8 patients (30.7%) 300-500 m without any effort, 2 patients (7.6%) up to 100 m, and 1 patient (3.8%) – up to 2000 m. Climbing the stairs from the ground floor to the first floor makes no problem for 7 people (26.9%), to the second floor – for 15 people (26.9%), to the third floor – for 4 people (15.4%). At the same time the frequency of their visiting a doctor decreased in 22 (84.6%) of the examined in the survey; it is the same for 2 patients (7.6%); it increased with 2 patients (7.6%).



## CONCLUSIONS

CABG in patients over 70 years of age are connected with higher "peri-operational" risk, prolonged recovering period and higher mortality.

According to the results of the survey, the overwhelming majority of patients at that age gets improvement in their health and in the quality of life.

## REFERENCES

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2001.11.30

## SUMMARY

At present, according to the increase of average age in modern societies, the patients who are over 70 years old and require coronary arteries reconstruction constitute a constantly growing group. In the Cardiosurgical Clinic of the Medical University of Lublin 30 coronary arteries bypass grafting operations in over 70-year-old patients were performed in 2000. The operations were performed using extra-body circulation. In the early postoperation period 3 patients died (10%), 2 patients (6%) required applying mechanical support of the left ventricle (IABP). 2 patients (6%) needed reoperation because of excessive drainage in the immediate postoperational period. CABG in patients over 70 years of age are connected with higher "perioperational" risk, prolonged recovering period and higher mortality. According to the results of the survey, the overwhelming majority of patients at that age gets improvement in their health and in the quality of life.

Pomostowanie tętnic wieńcowych u chorych po 70 roku życia –  
pierwszy rok doświadczeń

Obecnie z powodu wzrostu średniego wieku społeczeństwa coraz większą grupę chorych wymagających rekonstrukcji krążenia wieńcowego stanowią osoby starsze, które ukończyły 70 lat. W Klinice Kardiochirurgii AM w Lublinie w roku 2000 wykonano 30 operacji CABG u chorych, którzy przekroczyli 70 rok życia. Operacje przeprowadzono przy wykorzystaniu krążenia pozaustrojowego. We wczesnym okresie pooperacyjnym zmarło 3 chorych, u 2 konieczne było zastosowanie mechanicznego wspomaganie lewej komory (IABP). 2 pacjentów wymagało reoperacji w dobie zerowej z powodu nadmiernego drenażu. Zabiegi pomostowania tętnic wieńcowych u pacjentów po 70 roku życia obciążone są większym ryzykiem pooperacyjnym, wydłużonym okresem rekonwalescencji oraz wyższą śmiertelnością. W świetle przeprowadzonej analizy zdecydowana większość chorych w tej grupie wiekowej uzyskuje poprawę stanu zdrowia oraz jakości życia.