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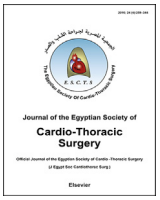

Short term outcome of coronary artery bypass graft surgery: Evaluation of recently established cardiac center

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ABSTRACT

Background: Overall, coronary artery bypass graft (CABG) surgery achieves excellent outcomes regarding anginal relief and resumption of normal activities. In general, completeness and stability of revascularization are superior with surgical revascularization versus percutaneous interventions.
This study aimed at assessment of the early postoperative outcome of the first 100 CABG cases grafted in the cardiothoracic surgery department, Qena university hospital, Qena, Egypt.

Results: This study was conducted on 100 patients with coronary artery disease. Only 5 patients had single vessel disease and 95 patients had multi-vessel disease, two or more. No one had left main disease. There was a great prevalence of diabetes mellitus (55%), hypertension (69%), dyslipidaemia (55%) and smoking (58%). Operatively, we used left internal mammary artery to left anterior descending coronary artery anastomosis in the majority of cases. In only two cases, right internal mammary artery was used, and great saphenous vein graft was used in anastomosis of remaining diseased vessels. Most cases underwent elective CABG. An intra-aortic balloon pump was used only in 2% of cases. Septicaemia was a significant complication. After 6 months, 97% of the patients were alive.

Conclusions: Institutional results are essential to enable surgeons and interventionists to decide if international data is keeping with local findings or not. However, the likenesses between international data and our results confer confidence in our findings.

1. Introduction

Coronary artery disease (CAD) represents the commonest cause of myocardial hypoxia. Understanding the pathophysiology of arterial disease with subintimal atheroma and plaque formation has been a breakthrough of modern medicine. The

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outcome of coronary artery bypass graft surgery (CABG) carries an overall mortality of about 3%; elective primary coronary bypass causes a mortality rate of approximately 1.7%.

CABG Complications include renal failure, neurologic injury, heart failure, haemorrhage, respiratory failure, and renal dysfunction. Overall, CABG achieves excellent outcomes regarding anginal relief and resumption of normal activities. In general, completeness and stability of revascularization are superior with surgical revascularization versus percutaneous interventions [1].

The aim of this work was to assess early post-operative outcome of the first 100 CABG cases grafted in the cardiothoracic surgery department, Qena university hospital, Egypt.

2. Patients and Methods

This study was conducted in Qena University Hospital, Qena, Egypt on 100 patients who did CABG from July 2012 to Aug 2015. This observational retrospective study was conducted after a written consent was signed by the participants. Patients were identified by their medical record numbers. Data were collected from patient's files and computer records, and from follow up echo at outpatient clinic. Patients with left main coronary artery occlusion, redo surgery, patients' needs valve replacement surgery with CABG were excluded from this study. We had divided data into patient's demographic and pre-operative data including comorbidities; intraoperative data and complications; and postoperative data at ICU as recent myocardial infarction (MI). Follow up data at outpatient clinic one month and six months after operation were collected. Patient evaluation included mortality, recurrence of chest pain, need for revascularization and follow up echo provided us information about cardiac function, wall motion abnormalities and cardiac chamber dimensions.

All patients fulfilled the following:

Preoperative:

- Demographic data (age, sex, race and BMI).
- Detailed medical history.
- Complete general and local cardiac examination.
- 12 leads ECG & plain chest X ray.
- Complete preoperative laboratory investigations (complete blood picture, coagulation profile, complete liver and kidney function tests, cardiac enzymes, arterial blood gases analysis, and lipid profile).
- Echocardiographic assessment including EF, LVEDD, LVESD and wall motion abnormalities.
- Coronary angiography.

Intraoperative:

- Traditional CABG was performed through median sternotomy incision with use of cardiopulmonary bypass (CPB).
- Myocardial preservation was provided by warm cardioplegia.
- The procedure involved bypassing the coronary blockages with conduits.
- The left internal mammary artery (LIMA) was usually used as a pedicled graft to the left anterior (LAD) coronary artery. Right internal mammary artery (RIMA) was used and in two cases. Saphenous vein grafts were used for the other anastomoses.
- The aortic cross clamp (ACC) & total CPB time.
- The inotropic support and vasodilators needed for each patient.
- Intraoperative complications.

Postoperative:

- All the patients were admitted to ICU. Clinical decisions on patient management in the ICU and the ward were based on our local protocols and guidelines; including decisions on extubation, blood transfusion, the start of the anticoagulation regimen, and discharge plan.
- 12 leads ECG and plain chest X ray.
- Predischarge complete clinical examination was done to all participants.
- Follow up echocardiography EF, LVEDD and LVESD done every 6 months
- Assessment of morbidity & mortality.

Early mortality refers to patients who died during operation, during hospital stay or within one month after operation. Follow-up lasted for 6 months.

The data had been compiled and checked on PC then analyzed using SPSS V24.0 software.

Mean and standard deviation were computed and test of significance (student *t*-test) was used to evaluate quantitative variables, and chi-square test for qualitative variables. All of these tests were used to find any significant relations between patient demographic and clinical characteristics and adverse postoperative outcomes. A p-value <0.05 was considered as statistically significant. The odds ratios and corresponding 95% confidence intervals were computed.