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INTRODUCTION

In Azerbaijan and in the world, coronary artery disease (CAD) is one of the core causes of death (1). Atherosclerosis is the main cause of CAD, wherein atherosclerotic changes occur in the coronary artery walls. CAD is a developmental process that starts in childhood and progresses clinically at a middle and advanced age (2,3). Each year, 1.5 million people in the United States develop myocardial infarction, a fatal manifestation

Outcomes of 5 years experience for isolated coronary bypass surgery: The first regional cardiac center in Azerbaijan-Ganja Merkezi Klinika

Abstract

Aim: In Azerbaijan and in the world, coronary artery disease is one of the core causes of death. Despite the development of percutaneous interventions, Coronary Bypass surgery continues to be one of the most crucial surgical procedures in modern medical history and has most likely extended more lives and provided more significant symptomatic relief than significant operations. The aim of this study was to show statistically, the percentage of complications of operations in our clinic was close to world practice.

Material and Methods: Between 2013 and 2018, 836 isolated Coronary Bypass surgeries were performed at Ganja Central Clinic. The results of these operations conducted in the study were presented.

Results: The length of stay of 362 (43.5%) patients was 5 days, and the length of stay of 58 (6.9%) patients was 10 days. 15 (1.8%) patients had an ischemic disorder of cerebral blood circulation in the postoperative period. 26 (3.1%) patients developed acute kidney failure, and 25(3%) patients had acute lung failure. Acute liver failure was noted in 7 (0.8%) patients. An intra-aortic balloon pump was used in 14 (1.6%) patients. Postoperative MI was noted in 13 (1.5%) patients. Unfortunately, 17 (2%) patients died during hospitalization. Different types of arrhythmias were noted in 115 (13.7%) patients. 11 (1.3%) underwent revision due to sternum ulcer. The mediastinum was inspected since 19 (2.2%) patients were bleeding.

Conclusion: Coronary Bypass surgery continues to be one of the most crucial surgical procedures in modern medical history. Our results in our clinic was close to world practice.

Keywords: Coronary bypass surgery, internal mammary artery, coronary artery diseases, atherosclerosis

of coronary artery disease; 0.5 million of these individuals die(1) Surprisingly, since the end of the 20th century, coronary artery disease deaths were not observed. Coronary bypass surgery (CBS), thrombolytic therapy, percutaneous coronary artery stenting, and people's pursuit of a healthy lifestyle have contributed to this. Substantial progress in the treatment of atherosclerosis in CAD can be attained in the science of acute myocardial infarction, acute coronary syndrome, and the science of plaque rupture. It is evident that plaques are responsible for

more than 50% of the narrowing of the vessel walls, and thus, these plaques pose a greater risk. The treatment of such ruptured plaques has advanced with the widespread utilization of new antiplatelet and antithrombotic means (4).

Despite the development of percutaneous interventions, CBS continues to be one of the most crucial surgical procedures in modern medical history and has most likely extended more lives and provided more significant symptomatic relief than significant operations. Anesthesia, intensive care unit management, and technological developments are pushing the boundaries of these operations to the next level (5).

CBS began in 1930, and in the 1960s, the saphenous vein was used in cardiac surgery (6). The use of the internal mammary artery was on the agenda before the saphenous vein magna. For the first time, the CBS operation using the Internal Thoracic Artery was performed by Kolesov. The positive outcomes of using the internal mammary artery made the use of this vessel a golden standard (7). Modernly, the saphenous vein, Internal mammary artery, and radial graft are more commonly used in CBS (8). In other cases, cardiopulmonary bypass is utilized. With the application of median sternotomy, the operation is performed. Contemporarily, beating-heart surgeries and the use of endoscopy in operations are present. Cardiac surgery has been practiced in Azerbaijan since 1970. In the 1990s, there was a stagnation in cardiac surgery in our country. Beginning from 2001, thanks to the general leader Heydar Aliyev, the foundation of modern heart surgery has been established in the Central Clinic. Nowadays, despite the presence of many heart centers in the capital Baku for many years, the first Cardiovascular Center in Ganja was opened in 2013.

MATERIAL AND METHODS

Between 2013 and 2018, 836 isolated Coronary Bypass surgeries were performed at Ganja Central Clinic. The results of these operations conducted in the study were presented. The study covers 836 patients who underwent coronary bypass surgery at the Ganja Central Hospital from 2013 to 2018. 659 (79.9%) of the patients were men, and 177 (21.1%) were women. The youngest patient was 31 years old, and the oldest patient was 81 years old. In general, the mean age was 56.2±. 282 (33.7%) patients had Unstable Angina. 402 (48.1%) patients had a history of myocardial infarction. 292 (34.4%) patients had diabetes, 82 (9.8%) patients had chronic obstructive pulmonary disease, 503 (60.2%) patients had hypertension, and 62 (7.4%) patients had peripheral artery disease. 798 (94.5%) patients were operated using cardiopulmonary bypass (CPB) method, and 38 (5.5%) patients were operated on beating heart. Bilateral IMA was applied to 152 (18.2%) patients. In the anamnesis of 35 (4.2%) patients, cerebral blood circulation disorders were recorded. 45 (5.4%) patients had chronic kidney failure, and 1 patient had chronic kidney failure due to dialysis. The heartbeat fraction of 42 (5%) patients was recorded being between 25% and 30%.

Statistical Analysis

Collected data were introduced in excel file and consequently analyzed using SPSS.

RESULTS

The length of stay of 362 (43.5%) patients was 5 days, and the length of stay of 58 (6.9%) patients was 10 days. 15 (1.8%) patients had an ischemic disorder of cerebral blood circulation in the postoperative period. 26 (3.1%) patients developed acute kidney failure, and 25 (3%) patients had acute lung failure. Acute liver failure was noted in 7 (0.8%) patients. An intra-aortic balloon pump was used in 14 (1.6%) patients. Postoperative MI was noted in 13 (1.5%) patients. Unfortunately, 17 (2%) patients had exitus during hospitalization. Different types of arrhythmias were noted in 115 (13.7%) patients. 11 (1.3%) underwent revision due to sternum ulcer. The mediastinum was inspected since 19 (2.2%) patients were bleeding.

DISCUSSION

Statistically, the percentage of complications of operations in our clinic was close to world practice. Coronary Bypass Surgery patients with symptomatic angina have great outcomes. A plethora of factors influence the long-term consequences following Coronary Bypass. One of them is graft remaining open over a period. If the grafts will not be open, stent can be placed, or surgery could be done again. Graft selection itself has a considerable impact on later revascularization. In fact, 95-96% of people's complaints decrease immediately after the operation, and in 85-90% of cases, the patient has no complaints within 1-3 years. In 75% of cases, within 5 years, patients have no complaints (9). In recent years, according to research, the results of patients who have complete arterial revascularization have been better. Moreover, the use of Bilateral IMA has increased in recent years in our clinic (10).

CONCLUSION

Coronary Bypass surgery continues to be one of the most crucial surgical procedures in modern medical history. Our results in our clinic was close to world practice.

Conflict of Interests: The author declares that there are no conflict of interests.

Financial Disclosure: There are no financial supports.

Ethics committee approval: The study complied with the Declaration of Helsinki, was approved by the Merkezi Klinika Ganja hospital and was conducted according to the protocol and using minimal invasive surgical techniques.

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