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Correlation Of Age And Coronary Heart Bypass Surgery: Observational Study.

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ABSTRACT

Aging could increase the risk for chronic diseases and disabilities and could have a significant impact on quality of life. The purpose our study is to assess the correlation of age on postoperative outcomes in patients that undergo coronary heart bypass surgery. We included patients in range of 45 – 75 years in our study. We divided these into two groups. Patients that are in range 45 to 60 years old who underwent CABG were selected as Group A . The patients who were 45 to 60 years old (Group A) were compared to patients aged 61 – 75 years old (Group B) to correlate if the age difference of the patients had an impact on surgical outcomes. We included 50 patients in each group . We included demographic information was collected for each patient. Pre-, intra-, and post-operative findings were identified. The rates of postoperative complications, mortality, hospital length of stay (LOS) and cost were compared. The study was approved by the IEC. Sample size was confirmed with the help of statistician. In our study, we found, Group A found 2% mortality rate while Group B found it was 8% . Hospital stay rate in group B was 19 % , while in Group A was 11 % . Postoperative complications were seen in 26% in group B , while 18 % in group A. Postoperative hospital stay was 8.90 days in Group B while 6.20 in Group A. Patients aged 61 - 75 years had more side effects after surgery. Finally, the findings of the study indicate that age affects the outcome of surgery after CABG. These older patients face greater risk of surgery and accumulate significant hospital costs and burden on patients.

Keywords: Coronary artery disease, post-operative complications, mortality.

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INTRODUCTION

Aging could increase the risk for chronic diseases and disabilities and could have a significant impact on quality of life. The purpose our study is to assess the correlation of age on postoperative outcomes in patients that undergo coronary heart bypass surgery. Coronary artery bypass graft surgery is most common in patients over ≥ 50 years of age [1]. Longevity in older patients has resulted in an increase in heart disease and a corresponding increase in the number of cardiac functions in this age group. Another concern for elderly patients is often the fear of the side effects of surgery [2]. There are chances that older patients will not recover or perhaps have a weakened muscle. The same alarm was assigned to a cardiologist who considered Octogenarians at high risk for systemic complications during percutaneous coronary intervention (PCI) due to their high prevalence of comorbidities related to severely depressed heart function [3-5]. Taking into account the uncertain relationship between age of patients and changes in quality of life after coronary artery bypass surgery and to some extent contradictory views on the topic, we have designated objectives including, identify the differences in preoperative quality of life between patients of different ages and to determine changes in the quality of life in different age groups of patients six months after coronary artery bypass surgery. We also decided to confirm the relationship between the age of patients and changes in quality of life six months after coronary artery bypass.

METHODS

The present study was conducted in our Department. We included patients in range of 45 – 75 years in our study. We divided these into two groups. Patients that are in range 45 to 60 years old who underwent CABG were selected as Group A. The patients who were 45 to 60 years old (Group A) were compared to patients aged 61 – 75 years old (Group B) to correlate if the age difference of the patients had an impact on surgical outcomes. We included 50 patients in each group. We included demographic information was collected for each patient. Pre-, intra-, and post-operative findings were identified.

Inclusion criteria

- Patients in age range 45 to 75 years
- No any other form of complications earlier
- No any other illness
- Voluntarily wilful and give written informed consent

Exclusion criteria

- Patients in beyond age range 45 to 75 years
- Any other form of complications earlier
- Any other illness
- Voluntarily not wilful

We collected information from patients records and filled data. The rates of postoperative complications, mortality, hospital length of stay (LOS) and cost were compared with defined age groups. The study was approved by the IEC. Sample size was confirmed with the help of statistician.

RESULTS

A total of 100 patients were identified who were ≥ 50 years old and underwent CABG.

Table 1: Mortality indicator

Mortality	Number of patients	Percentage
Group A (N=50)	1	2
Group B (N=50)	4	8

Table 2: Hospital stay indicator

Hospital stay	Mean \pm SD
Group A (N=50)	11.20 \pm 2.80
Group B (N=50)	19.00 \pm 3.30

Table 3: Post-operative complications indicator

Post-operative complications	Number of patients	Percentage
Group A (N=50)	9	18
Group B (N=50)	13	26

Table 4: Post operative Hospital stay indicator

Postoperative Hospital stay	Mean \pm SD
Group A (N=50)	6.20 \pm 1.68
Group B (N=50)	8.90 \pm 1.28

In our study, we found, Group A found 2% mortality rate while Group B found it was 8% . Hospital stay rate in group B was 19 % , while in Group A was 11 % . Postoperative complications were seen in 26% in group B , while 18 % in group A . Postoperative hospital stay was 8.90 days in Group B while 6.20 in Group A .

DISCUSSION

Coronary artery bypass grafting (CABG) is still the most commonly performed cardiac surgery procedure worldwide. Coronary artery bypass graft surgery in the elderly is becoming increasingly common. Our data show, however, that the efficacy of bypass surgery in very elderly people is associated with much higher short-term and long-term mortality rates and that they use more health resources per procedure than younger patients [6].

In our study, we found, Group A found 2% mortality rate while Group B found it was 8% . Hospital stay rate in group B was 19 % , while in Group A was only 11 % . Postoperative complications were seen in 26% in group B , while 13% in group A . Postoperative hospital stay was 8.90 days in Group B while 6.20 in Group A . Tomer et al found , during the study period, 1108 patients underwent CABG; 612 were operated before 2009 and 496 after. Age and sex were similar in the 2 periods. The patients in the later period presented lower risk for mortality and stroke ($P < .001$). Diabetes (DM) was more common in the later period ($P < .001$) while peripheral vascular disease (PVD) ($P < .001$) and left main disease (LM) ($P = .017$) were more common in the earlier period. Mortality rates were similar between the 2 periods. Post-operative stroke (1.8%) and coma (0.8%) were presented only in the later period. In conclusion, a significant change in CABG patients' characteristics was observed. In conclusion, patients in the later period had lower risk score and were more likely to present with DM and less with PVD and LM. Despite the lower risk, the mortality rate was similar [7].

Over the past 4-5 years, possibly with the advent of percutaneous transluminal coronary angioplasty (PTCA), there has been a changing patient population for coronary artery bypass surgery (CABS) with a gradual increase in the operative mortality. In an attempt to analyze the changing demographics in patients undergoing CABS and its effect on operative mortality [8]. The analysis conducted in the current study focused first on the influence of age and followed by the effectiveness of

modern surgical techniques on pre- and post-clinical outcomes. A group of patients 75 years of age or older had a very high mortality rate, hospitalization of intubation, kidney failure, and hospitalization. However, the team presented surgery for severe clinical conditions as indicated by the analysis of the underlying features. In conclusion, this study suggests that patients who are 75 years of age or older and who suffer from coronary revascularization have a more severe clinical condition and have higher mortality and morbidity in the hospital [9].

CONCLUSIONS

Patients aged 61 - 75 years had more side effects after surgery. Finally, the findings of the study indicate that age affects the outcome of surgery after CABG. These older patients face greater risk of surgery and accumulate significant hospital costs and burden on patients.

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