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ORIGINAL ARTICLE

Comparing short- term mortality in opium users and non-users candidate for coronary artery bypass graft surgery

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Abstract

Introduction: Opium addiction is a social and health problem in many parts of the world, including Iran. The exact effects of this substance on the cardiovascular system and postoperative complications are not clear And the results of studies in this regard are also contradictory, Therefore, the present study aims to compare short-term mortality After coronary artery bypass surgery In two groups Opium consumer And non-consumer was done.

Methods: This cross-sectional study was performed on 194 patients who were hospitalized during September 2013 to September 2015 In Valiasr Hospital of Birjand, they were under CABG operations conducted. In this study, short-term mortality(Hospital and a month After discharge) Through existing records And phone calls were reviewed. All data were analyzed by SPSS 22 software and analyzed using descriptive and inferential statistics.

Results: Of the 194 patients who had undergone surgery twenty-three patients (12.2%) used opioid Among them, In the form of Inhaler, 13 patients (56.5%) orally And 3 patients (13%) was a combination of orally and inhaled. In general, there is a case of mortality during surgery And 7 cases (77.77%) of mortality occurred in the Hospital ward. During the one month follow up, There was a death case. Among the non-addicted patients164 case were alive and 7 died And among addicted patients as well 22 cases were alive And there was a death case. Finally, the results showed, No statistically significant difference between the mortality after surgery, Blood lipids, and diabetes, In two groups Opium consumer And non-consume($p>0/05$). But hypertension in the non-addicted group was significantly higher ($p <0.05$).

Conclusions: Based on the results of this study, there was no significant relationship between opioid dependence and short-term mortality in patients after CABG surgery. Due to low sample size and cross-sectional study, The design of cognitive studies with higher sample sizes seems to be necessary in order to discover causal relationships.

Key Words: Opium; Dependency; Coronary Artery Bypass; Mortality

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Introduction

Coronary artery bypass (CABG) is a common surgical procedure for the treatment of coronary artery disease (CAD) (1).

But there are a number of different factors Which affect the patients' life span after CABG surgery and the outcome of the surgery.The mortality rate after this surgery can be influenced by several factors, Factors including the length of stay in the intensive care unit, Atrial fibrillation, Acute kidney injury, Nerve damage and dialysis can be involved in the deaths of patients (2 and 3).

On the other hand, opium addiction as a factor affecting cardiovascular problems in many Asian and Middle Eastern countries such as Iran it was discussed. However, there are few studies to prove or disprove this belief (4).

Opium is a raw material derived from poppy. Which is very effective in relieving acute and chronic pain, but there is a potential for abuse and addiction (4).

Opium addiction is a social and health problem in many parts of the world, including Iran (5, 6). Misuse of this substance is considered as the most common type of drug use in Iran (3 and 1). The major effects of opium on the central nervous system and intestines, While other organs, including the respiratory and cardiovascular system, can also be affected (7).

The prevalence of opiate addiction in CABG patients is also relatively high And the majority of patients believe that drugs have a positive effect on chest pain and cardiovascular function (8,9) And can prevent the occurrence of cardiovascular disease or improve them (6).

The results of some studies show that In patients undergoing CABG, drug addiction increases post-surgical hemorrhage and is more likely to be readmitted (6 and 10). Also, drug addiction with pain suppression and changes in the endocrine system and cytokines can Change the wound healing process in patients undergoing surgery (11).

The results of the study by Malviya et al. (2011) showed that Opioid addicts experienced a higher incidence of respiratory, cardiovascular, systemic and topical complications after general surgery (12). In contrast, Azarasa (2009) did not see any increase in cardiovascular complications and hospital mortality after CABG surgery and heart valve in drug addicts (13).

Therefore, in view of the increasing growth of drug addiction and its tendency in society, it is necessary to understand the effects of opium in various diseases, including cardiovascular disease. And since the exact effects of opium on the cardiovascular system are not completely clear and the results of studies are also contradictory in some cases The aim of this study was to compare the short-term mortality after coronary artery bypass graft surgery in opium users and non-users.

Methods

This cross-sectional study was performed on 194 patients who were hospitalized during September 2013 to September 2015 In Valiasr Hospital of Birjand, they were under CABG They were included using the census method. In this study, short-term mortality (hospital and one-month) was monitored through existing records and telephone contacts.After approval of the proposal by the Deputy of Research and the university ethics committee (Ir.bums.1394.366) And receive a letter from the university vice chancellor, The medical records of Vali-e-Asr Hospital in Birjand were referred.The medical records of patients who were undergoing CABG surgery during this period were reviewed and Information was extracted from patients' records.Then, based on the contact number in the file, The patient or his family was contacted and The patient's condition was examined within one month. To collect data in this study, a pre-designed questionnaire was used. All information in this questionnaire such as:

Age, sex, history of diabetes, blood lipids, blood pressure, Current or previous smoking, The duration of smoking and the number of envelopes per day, Opioid use, How to use opioid, The patient's condition during hospital ward, the condition of the patient was investigated. within 30 days after discharge and, in case of death, the cause of death. All data after collection and Encoded by software Spss22Using descriptive statistics such as mean and standard deviation, frequency and percent, and inferential tests such as Chi-square In order to investigate the relationship between opioid addiction and postoperative complications and clinical specification.

Results

A total of 194 patients with an average age of 61.7 years were studied. The majority of patients were male and the majority of them aged about 65 to 75 years (n = 110, 57.7 percent). The mean height, weight, and BMI of patients were 156.8 cm, 67.24 kg, and 29.87, respectively. Of the 194 patients, 12 (6.3%) was a current smoker and The average number of cigarettes per day was 17.83

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And 7 patients (3.7%) had a history of smoking in the past Whose average annual consumption was 11.71 per year. Also, 19% of patients had been blood glucose, 18.5% had blood lipids and 26.5% had hypertension. Of the total number of patients, 23 (12.2%) patients used opium. Seventy (30.4%) were inhaled, 13 (56.5%) were orally and 3 (13%) were combined with oral and inhalation. Of the 194 patients undergoing CABG surgery, A case of death during surgery, Zero cases in ICU, And 7 cases (77.77%) of mortality occurred in the hospital ward. During the one-month follow-up, there was also a case of death. The cause of death of these patients during the studies, In 3 patients (33.33%) cardiac causes, In one patient (11.11%), brain causes, 2 patients (22.22%), renal causes, In one patient (11.11%) were due to heart attack, And eventually one case (11.11%) was due to unknown. Death was not due to pulmonary, vascular, valvular, or multi-organ causes. Regarding the patient's condition during Hospital ward, Among non-addicted patients, 164 (95.9%) were alive and 7 (4.1%) died And among addicted patients22 cases (95.7%) were alive and one case (4.3%) died. And finally, the result of the Chi-square test showed that There was No significant difference between postoperative mortality (p = 0.954), Blood lipids (p = 0.285) and diabetes (p = 0.113) In two groups opium addicts And non-addicted, But hypertension was significantly higher in the non-addicted group (p=0.039).

Discussion

The results of this study showed There is no statistically significant difference in terms of short-term mortality in addicted and nonaddicted patients after CABG surgery. In this regard, the results of the study Safaii(2010) showed In-hospital mortality, Postoperative complications, Reception in the intensive care unit And length of stay after CABG surgery, Between the three groups Non-addicted Current consumer And former consumer There was no statistically significant difference (6). Azarasa (2009) also did not see any increase in cardiovascular complications and hospital mortality after CABG surgery and heart valve in drug addicts (13).

Maghsoudi (2012) in his study refers to the protective effects of drugs on the cardiovascular system after the CABG surgery. His study results showed, Although the length of the need to inotropic After separation from cardiopulmonary bypass support in opium dependent was shorter as compared to non-opium dependent patients, the frequency of inotrope need and specific inotrope usage and also the frequency of IABP insertion was not different between the two groups.

5). In contrast to Najafi (2016), in a cohort study with a follow-up period of 5-6 years, it was concluded that The use of opium significantly reduces the Ejection fraction and the higher prevalence of myocardial infarction and higher mortality in patients undergoing CABG (14).

The results of the study Safaei (2008) also showed that the need for re-admission during the 6-month period after the CABG Due to cardiac complications in patients dependent on drugs was higher (9). The results of the Misra (2003) study also show this (15).Also, Malviya (2011) in his study showed that Opioid addicts experienced a higher incidence of respiratory, cardiovascular, systemic and topical complications after general surgery. Also, the need for pain relief and hospital stay were significantly higher (12).

In another study that investigated short-term complications after CABG during a three-month period, The results showed that in the drug user group Infectious, neurological, and pulmonary complications were significantly higher, However, the rate of postoperative bleeding was not different in the two groups (16). Some studies also show that in patients undergoing CABG, drug addiction increases post-surgical hemorrhage and is more likely to be readmitted (6and10).Sheikhi (2015) also notes the effects of morphine on the increased complications and volume of post-CABG hemorrhage (17).

The results of Maghsoudi's study (2016) showed That the use of opium syrup in managing anesthesia in open heart surgery leads to an adequate depth of anesthesia and hemodynamic stability (18). Atrial fibrillation after cardiac surgery is one of the major causes of mortality in patients (19). The results of a retrospective study of 670 patients undergoing CABG showed that Opium consumption is a predictor of postoperative atrial fibrillation in CABG(20).

The differences observed in the results of the present study with these studies may be due to The small sample size in this study and the difference in the target groups or the time of the study. In general, the difference in the incidence of postoperative complications and mortality in addicted and non-opiate addicts may be due to differences the amount of smoking between the two groups The difference in the amount of postoperative pain relief medications, Nutrition differences, And ultimately, the differences in adherence of each group to medical advice and post-discharge diet. The results of most studies have shown that drug addiction does not

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significantly correlate with high blood pressure (25-21). The results of Yousefzadeh et al. (2015) showed that Blood pressure in addicts is significantly higher (26). While some studies have shown contradictory results (4, 7 and 27).

The effects of opium on blood pressure can be influenced by the dose and duration of use and Low dose and short-term opium use often reduce blood pressure. And this effect is through vasodilatation And reduces sympathetic function But in the long run, the effect of opium on hypotension is reduced (28).

Conclusion

Based on the results of this study, there was no significant difference in the mortality rate after CABG surgery between the two groups of consuming and non-consuming substances. There was also no statistically significant difference between blood lipids and diabetes in the two groups of consuming and non-consuming substances But hypertension was significantly higher in the nondependent group.

Given the results obtained in this study, we can not definitely judge this relationship. Because due to the small number of sample sizes and therefore the low total mortality rate, it was not possible to compare and find the relation between these deaths and various cases. On the other hand, this study, through its cross-sectional design, Risk factors and outcomes are examined simultaneously and This prevents a precise review of the timing between them.

Therefore, the design of Cognitive studies with The sample size seems to be necessary in order to discover the causal relationships.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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