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## Post CABG Psychological Disorder: New Update for Surgeons and Nursing Groups

Amanollah Heidari<sup>1</sup>, Khosrow Sharifi<sup>2</sup> and Mehdi Dehghani Firoozabadi<sup>3\*</sup>

<sup>1</sup>Assistant Professor of Cardiovascular surgery MD, Department of Cardiac surgery, Atherosclerosis Research Center and Imam Hospital, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

<sup>2</sup>Assistant Professor of Cardiovascular surgery MD, Department of Cardiac surgery, Atherosclerosis Research Center Golestan Hospital, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

<sup>3</sup>Assistant Professor of Cardiac Anesthesiology MD, Department of anesthesiology, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

### ABSTRACT

Atherosclerosis a type of arteries' hardening that is caused by the formation of atheromatous plaque in the vessel wall. CABG is proposed as a standard of care for patients with coronary artery disease. This method besides its advantages has a variety of side effects that in addition to physiological mortality and morbidity suffers from psychological effects that are reviewed in this paper. The surgery is associated with multiple psychiatric symptoms for patients. Among them the pre and post-surgical mental problems and disorders are more important. Also As mentioned before depression is commonly reported as a consequence of coronary artery bypass surgery and it is associated with a great risk of mortality, morbidity, increased medical care and reduced performance in daily activities. Quality of life means the ability to perform daily affairs satisfactorily that includes a wide range of features and physical and mental factors. Scientific evidence suggests that 32% of heart patients in hospitals have severe depression that is continued after a year. However, it has been more than 40 years that delirium has been reported as an adverse postoperative cardiac surgery event. The analysis of the relief and relaxation method used by the nurses and its relationship with the incidence of post-surgical delirium helps to identify the areas that require training and practical changes.

**Key Word:** CABG, Pain, Psychological Disorder, Quality of life, Delirium, Nurse

### INTRODUCTION

#### *An Introduction to the Coronary Artery Disease and CABG Surgery*

Cardiovascular diseases are one of the main concerns of the people in the health domain [1, 2]. Atherosclerosis is a type of arteries' hardening that is caused by the formation of atheromatous plaque in the vessel wall [3, 4]. The disease leads to the narrowing or blockage of the blood vessels and eventually stroke, heart attack and death [5, 6]. CABG is proposed as a standard of care for patients with coronary artery disease [7, 8]. This method besides its advantages has a variety of side effects that in addition to physiological mortality and morbidity suffers from psychological effects that are reviewed in this paper [9-11]. Obviously nursing care after surgery plays a key role in improving the symptoms and preventing complications especially the psychological effects [12, 13].

**Methodology**

This review article that we search article with keywords CABG, Pain, Psychological Disorder, Quality of life, Delirium, Nurse In academic database such as Pubmed, Medline, Web of Knowledge, Scopus and Google Scholar, So we wrote all of useful result that can help surgeon and nurses to improve quality of life in patient sufer from psychological disorder after CABG Surgery.

**RESULTS**

We describe all of result in several paragraph and explain importance of this studies and need to attention to this.

***Psychological complications after CABG surgery***

The surgery is associated with multiple psychiatric symptoms for patients [4]. Among them the pre and post-surgical mental problems and disorders are more important [5]. In a study that is conducted in Germany in 2007 it is shown that the pre and post- CABG surgical incidence and prevalence of depression is 25 and 24% and pre and post- CABG surgical anxiety is 34 and 7% respectively [6]. According to another study pre and post- CABG surgical prevalence of depression is reported as 47 and 61% respectively and people who have depression before surgery will suffer from this problem for a longer time after surgery [5]. Waiting for heart surgery, hospitalization, fear of death, knowing someone who had the same problem and died and generally the fear of the unknown are all factors that lead to the development of anxiety and depression in patients. So although a thorough study of physical and mental readiness among these patients is very important, psycho - social and mental preparation is one of the essential parts of nursing care [7].

***Post CABG surgical depression***

As mentioned before depression is commonly reported as a consequence of coronary artery bypass surgery and it is associated with a great risk of mortality, morbidity, increased medical care and reduced performance in daily activities [18]. Clinical depression has been reported after 54% of bypass surgeries [19]. Depression is introduced as the fourth pervasive health problem by the World Health Organization and its debilitating intensity is comparable with 8 major chronic diseases; the outcome of this disease in patients with heart disease is the deterioration of their physical and mental state [20]. Depression has a negative impact on the prognosis of heart disease because these patients have no tendency to continue rehabilitation programs and are often socially isolated and present little tolerance about diet, medication and smoking cessation and also do not apply physical activity recommendations and on the other hand, since the depressed mode is considered as a normal reaction for these patients, it is ignored not only by patients but also by the physicians as well and thus the patient does not report his depressed mode and their depression is often undiagnosed and untreated depression itself leads to the expansion of heart disease and its recurrence in these patients [21]. Depression is directly related to mortality and morbidity in patients with coronary artery disease [22]. One of the most important aspects in the recovery period after coronary artery bypass surgery is the mental status of the patients that plays an undeniable role in other aspects of social functioning and the resumption of work and activities [23]. At the beginning of treatment, patients develop moderate symptoms and then develop anxiety, stress and depression [24]. The symptoms could be associated with symptoms such as fatigue, sleep disorders and mood state changes such as stress, fear, confusion, agitation, irritability, fear and anger due to the feelings of worthlessness, lack of control and low self-esteem [25]. Patients undergoing coronary artery bypass graft surgery require extensive changes in lifestyle and need extensive cares. In addition, the basis for the treatment of coronary artery disease is the compliance with the treatment programs. Despite the importance of this fact the depressed patients are less inclined to follow the programs related to diet, exercise, stress reduction and increased social support. Having a low level of anxiety could cause the patients to have better emotional responses and make changes in their lifestyle and present appropriate adaptive behaviors [26], but the excessive stress stimulates the sympathetic nervous system and increases heart rate and blood pressure that lead to higher oxygen consumption and blood supply to the heart cells disturbed more and more. Decreased blood supply with increased oxygen consumption in heart muscle cells increases the coronary events [27]. The study conducted by Hosseini showed that patients with coronary artery disease deal with problems more emotionally compared with healthy individuals and have higher interpersonal conflicts in their relationships. Patients who undergo open heart surgery suffer from anxiety for various reasons including severe chest pains and the resultant fatigue that make the patient more distressed. Fear of death and disability and continued symptoms despite treatment with surgery and lack of readiness for surgery exacerbate the problems [28, 29].

***Post CABG surgical quality of life***

Quality of life means the ability to perform daily affairs satisfactorily that includes a wide range of features and physical and mental factors [30]. Scientific evidence suggests that 32% of heart patients in hospitals have severe depression that is continued after a year; it is also reported that the anxiety of patients was 40% that is increased to 40% after a year [31]. Research has also shown that the lack of resolving lack of psychological problems of patients after dismissal could cause repeated heart attack [32]. The purpose of sports rehabilitation of the heart patients as part of secondary prevention is to improve and promote patients' condition to the highest possible physical, mental and social levels especially after the open heart surgery [33]. Dugmore et al in a study with the participation of 124 cardiac patients in both case and control groups showed that the cardiac patients who participated in cardiac rehabilitation programs were significantly different from the control group in terms of exercise capacity, anxiety and depression and quality of life such that the participants in the program had much better situations than the control group in all dimensions [34].

***Post CABG surgery delirium***

Delirium is a type of disorder that has been seen in all areas of acute care and there is a range of its definitions in the academic literature. Confusion, agitation, confusion and aggressive behavior are descriptions commonly used by nurses in patients' profiles to describe the acute onset of consciousness and cognitive disorders [35]. The consequences of delirium include increased length of stay in hospital and ICU, increased mortality, increased susceptibility to post-traumatic stress disorder, and possible long-term cognitive disorder with an impact on quality of life [36].

**DISCUSSION AND CONCLUSION**

Unfortunately according to the results many ICUs still lack delirium protocol for the evaluation and treatment and the nurses are still not aware of the importance of rigorous and continuous screening of delirium [37]. However, it has been more than 40 years that delirium has been reported as an adverse postoperative cardiac surgery event [35]. During the past four decades research has provided a long and growing list of risk factors hoping to increase diagnosis and prevention of this disease for the doctors. Post-surgical delirium experienced by cardiac patients is related to the interaction between many risk factors for heart surgery patients in the community [38]. These risk factors can be explained based on the stage of care in which they have occurred. The decision to use sedatives or without sedation protocols can be associated with common theories of patients' safety needs that are available in ICU [39]. Indiscriminate use of sedatives and the lack of defined guidelines in a joint effort by nurses and doctors might be effective in the mismanagement of the sedatives which could increase the risk of delirium in patients. Safety concerns for patients are revealed in the ICU and they are mostly associated with patients' mechanical ventilation [40, 41]. These concerns are more associated with the nurses and it should be noted that since it seems that this affects the nurses' understanding of pain affects their pain assessment and analgesia management directly, obtaining a proper understanding of the effect of these factors is important in clinical decision making [42, 43]. Delirium experienced by heart surgery patients is an important setback factor in rehabilitation that increases the health care cost significantly but more importantly the patients suffer from long-term potential problems. Obviously although delirium is a complex disorder with conflicting definitions, the risk factors, assessment tools, and disagreement on the effective treatment are effective problems that are influenced by nursing care. Also the disagreement on the relationship between pain killers, sedatives and delirium is evident and there is no study on the PRN prescription methods by the ICU nurses which suggests that more research is needed in this area [44, 45]. The analysis of the relief and relaxation method used by the nurses and its relationship with the incidence of post-surgical delirium helps to identify the areas that require training and practical changes. Determining whether there is a relationship between PRN prescription of opioid analgesics and benzodiazepines and delirium will help the nurses in the prevention of these side effects following the heart surgery.

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