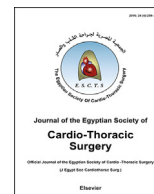


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## Sexual dysfunction before and after coronary artery bypass graft surgery in males

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### ABSTRACT

**Background:** Decreased sexual activity and function are common in patients with CVD and are often interrelated to anxiety and depression. A vast majority of patients won't be able to resume their normal sexual activity after a cardiac event or procedure. **Objective:** To evaluate and compare the pattern of sexual dysfunction before and after coronary artery bypass graft surgery in male patients.

**Methods:** The study included all male patients aged less than 60 years, who were candidate for on-pump CABG at Ain Shams University Hospital. Patients underwent the following tests: Structured Clinical Interview for DSM-IV (SCID-I) to exclude psychiatric morbidity affecting the patients' sexual functions. Arabic male version of Sexual behavioral questionnaire (SBQ) for determination of incidence and type of sexual dysfunctions and the Arabic version of Marital Satisfaction Inventory (MSI) which was applied for the patients' wives. Assessment was performed 2 days pre-operatively and 12 weeks after surgery.

**Results:** Compared to the preoperative state, there was a significant deterioration of sexual functions in patients after CABG surgery. Impairment was evident in elements of ejaculation, erection, sexual excitement, and enjoyment and satisfaction items of SBQ ( $P \leq 0.0001$ ). Logistic regression analysis was performed to evaluate the predictive factors for sexual dysfunction, which revealed that prolonged CPBT was significantly correlated with the incidence of premature ejaculation ( $P = 0.04$ ) and the need for re-exploration was significantly correlated with reduced patients' sexual excitement post operatively ( $P = 0.04$ ).

**Conclusions:** Sexual dysfunction is not uncommon following CABG surgery however, sexual counseling is still not being addressed adequately. Participation in the rehabilitation program is the responsibility of the cardiac surgeons, rehabilitation nurses and the patient's partner.

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**Glossary of abbreviations:**

AMI	acute myocardial infarction
CABG	coronary artery bypass graft surgery
CCT	Cross Clamp Time
CPB	Cardiopulmonary bypass
CPBT	cardiopulmonary bypass time
CVA	cerebrovascular accident
CVD	cardiovascular disease
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition
DSM-IV-TR	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision
ED	erectile dysfunction
EF	Ejection Fraction
HTN	Hypertension
LAD	left anterior descending
LIMA	left internal mammary artery
MSI	Marital Satisfaction Inventory
MSI	marital satisfaction inventory
PCI	percutaneous coronary intervention
QoL:	quality of life
SBQ	Sexual behavioral questionnaire
SBQ	Suicide Behavior Questionnaire
SCID-I:	Structured Clinical Interview for DSM-IV Axis I Disorders
SVG	saphenous vein graft

**1. Introduction**

Quality of life is a reflection for all physiological and psychosocial aspects of well-being and integrity, so it represents an important measure of the success of a medical/surgical intervention beyond simple high survival rates [1].

Sexual activity is an essential component of patient and partner quality of life for men and women with cardiovascular disease (CVD) [2]. Decreased sexual activity and function are common in patients with CVD and are often interrelated to anxiety and depression [3,4].

A vast majority of patients wouldn't be capable to resume their normal sexual activity after a cardiac event, acute myocardial infarction, percutaneous coronary intervention, coronary artery bypass graft, or valvular surgery [5,6]. Various studies have demonstrated that sexual dysfunction shares several modifiable risk factors CVD including atherosclerosis, hypertension, dyslipidemia, diabetes mellitus, smoking, obesity and sedentary lifestyle. In patients with sexual dysfunction, perception of well-being and self-esteem is generally depressed and contributes to worsen quality of life (QoL) [7,8].

Sexual dysfunction may be categorized into four types: loss of libido, erectile dysfunction (ED), ejaculatory insufficiency, and anorgasmic states [9]. Normal sexual function requires both intact health circulation and normal hormonal profile. However Cardiopulmonary bypass (CPB) for on-pump CABG can affect serum levels of androgenic hormones, especially testosterone that maintains the normal sexual activity [10].

Taken into the consideration, cultural influences on sexual behavior, Egyptian culture is one that may have a pathogenic role where cultural beliefs may cause stress and severe emotional pain in cases of male sexual dysfunction. Thus, cardio-thoracic surgeons are usually facing many challenges with their CABG patients both pre and post operatively, as reflected in many of their referrals to clinics.

Male sexual dysfunction affects about 10–25% of middle-aged worldwide [11]. At least 75% of patients with heart disease experience one or more types of sexual dysfunction [12]. However Egyptian studies on male sexual dysfunction pre and post CABG surgeries are scarce. Therefore, we were interested in comparing the rate of sexual dysfunction among male patients before and after CABG surgery and whether certain patients' clinical and surgical variables would affect their sexual functions.

**2. Patients and methods**

Participants were recruited from male married patients that were candidate for elective first time on-pump CABG at the Cardiothoracic Surgery Centre, Ain Shams University hospitals, Cairo, Egypt during the interval between July 2015 till July 2016, 53 patients were included in the study. Inclusion criteria included: age below 60 years (to avoid the effect of aging on sexual function). Exclusion criteria included patients with history of drug abuse for sexual dysfunction before surgery time, however, those who were occasional users were not excluded, negative past history of psychiatric illness or medications,

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