UC Irvine
UC Irvine Previously Published Works

Title

Who is at Risk for Exhaustion Post-Cardiac Surgery

Permalink

https://escholarship.org/uc/item/0v71353v

Journal

CIRCULATION, 124(21)

ISSN

0009-7322

Authors

Miller, Pamela S
Evangelista, Lorraine S
Giger, Joyce Newman
et al.

Publication Date

2011

Copyright Information

Peer reviewed

Circulation

Abstract 14574: Who is at Risk for Exhaustion Post-Cardiac Surgery

Pamela S Miller, Lorraine S Evangelista, Joyce Newman Giger, Teresita Corvera-Tindel, Otoniel Martinez-Maza, Kathleen Dracup and Lynn V Doering

Article   Info & Metrics   eLetters

▼ **Jump to**

Abstract

Background: Vital exhaustion (VE), a psychological state characterized by extreme fatigue, is an independent prognostic indicator of future cardiac events. Despite its prognostic value, little is known about predictors of VE after cardiac surgery.

Objective: To investigate socio-demographic and clinical factors associated with risk of postoperative VE following coronary artery bypass graft (CABG) surgery.

Methods: In a prospective, cross-sectional pilot study at two cardiac centers, 42 post-CABG patients (age 67.5 ± 12.6 years, 90.5% male) were screened for depression (Patient Health Questionnaire-2) and evaluated for VE (Maastricht Interview) 4 to 8 weeks post-hospitalization discharge. Potential covariates included socio-demographics, clinical characteristics, medical history, cardiovascular risk factors, medications, and preoperative hematology. Stepwise logistic regression analyses were performed to identify predictors of VE.

Results: Prevalence rate of VE was approximately 41% (n = 17). Older patients (> 65 years) were less likely to be exhausted (Table; $p < 0.05$). After adjusting for age, independent predictors of exhaustion were presence of right coronary artery disease ($p < 0.05$) and higher preoperative left ventricular ejection fraction (LVEF; $p < 0.01$). In a

separate regression model controlling for age and LVEF, patients with increases in preoperative hemoglobin (OR 3.19, 95% CI 1.13 - 9.01, p = 0.03) and eosinophils (OR 1.02, 95% CI 1.00 - 1.04, p = 0.02) were more likely to be exhausted (Pseudo R^2 = 0.62).

Conclusion: The association of VE following CABG with higher LVEF, presence of right coronary artery disease, and higher hemoglobin and eosinophil concentrations is novel, unexpected and clinically relevant. Identifying risk factors for VE may increase our ability to target patients in whom exhaustion may hamper surgical recovery. Further study is needed to investigate the effect of VE on short- and long-term postoperative outcomes.

Table. Independent Predictors of Exhaustion Risk

Variable	OR	95% CI	P
Left Ventricular Ejection Fraction	1.125	1.030 - 1.229	0.009
Right Coronary Artery Disease	11.945	1.355 – 105.312	0.03
Age > 65	0.150	0.025 - 0.902	0.04

Hosmer–Lemeshow statistic: x^2 = 3.126, df 8, P = 0.926;
Nagelkerke R^2 = 0.432

Coronary heart disease   Cardiac surgery