The Effect of Preoperative Cognitive Dysfunction on Outcomes in Cardiac Surgery

Primary Author: pakorn urusopone MD
King Chulalongkorn Memorial Hospital

Co-Authors: anantachote vimuktanandana, MD; pongpol sirilaksanamanon, MD; toonchai indrambarya, MD; wirinda chiravanich, MD;

Background: Preoperative cognitive dysfunction (PreOCD) has not been as well described as a risk factor for poor outcome in cardiac surgery as postoperative cognitive dysfunction. The aim of this study was to demonstrate the effect of PreOCD on postoperative outcomes in cardiac surgery.

Methods: 100 consecutive patients aged between 18 and 65 years undergoing elective cardiac surgery with cardiopulmonary bypass at King Chulalongkorn Memorial Hospital were enrolled. Exclusion criteria were history of symptomatic cerebrovascular, psychiatric or other neurological diseases, as well as conditions precluding appropriate evaluation such as visual or hearing impairment. Written information was provided and written informed consent was obtained. We used Montreal Cognitive Assessment (MoCA) to evaluate cognitive function in the evening before surgery and defined score less than 26 as cognitive impairment. This test has already been translated to Thai and validated for Thai population. We compared outcome data between patients with PreOCD group and without PreOCD group.

Results: One patient in PreOCD group withdrew from our study due to a personal reason. 69 out of 99 patients (68.31%) had PreOCD. In PreOCD group, postoperative mechanical ventilation period was longer (15.9±26.6 VS 7.4±8.76 hrs, P=.018), ICU stay was longer (39.9±43.7 VS 27.6±15.0 hrs, P=.039), and cost of hospital stay was higher (13,540±6,355 VS 11,264±5,229 baht, P=.014). However, length of hospital stay was not significantly different (10.1±3.8 VS 9.3±4.4 days, P=.384).

Conclusions: We demonstrated the adverse effect of PreOCD on patient’s outcomes after cardiac surgery. It may be a useful risk stratification in preoperative screening test and potentially facilitate risk reduction strategy to improve outcome.