

Cardiac surgery ICU vs general ICU in cardiac surgery patients: influence on early postoperative outcomes

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Introduction

Early postoperative period after cardiac surgery requires high quality critical care to minimize complications, morbidity and mortality (1, 2). The aim of our study was to evaluate the early postoperative outcomes of cardiac surgery patient's recovery in a new designed cardiac surgery ICU (CICU) compared to a general ICU.



Methods

Between May 2012 and December 2013, a total of 684 consecutive cardiac surgery patients were admitted to ICU. From May to December 2012 (period 1) 224 patients received postoperative care in a general ICU staffed by intensivists and from January to December 2013 (period 2) 460 patients were admitted postoperatively in a new opened specialized cardiac surgery ICU, staffed by intensivists, cardiac anaesthetists and cardiac surgeons. The following parameters were compared between the 2 groups retrospectively: Fast track extubation (less than 8 hours), re-intubation, respiratory complications necessitated non invasive ventilation (NIV), pneumonia, septicaemia, acute kidney injury (AKI) and re-exploration for bleeding. Statistical analysis was performed using the chi-square test ($p < 0.05$).

Results

Although period 2 included double number of patients, the postoperative care of cardiac surgery patients in a specialized cardiac surgery ICU resulted in more fast track extubations, less respiratory complications necessitated NIV and less septicaemia incidence while there was no statistical difference in the incidence of AKI, pneumonia, re-exploration for bleeding and re-intubation rate.

	Period 1	Period 2	
No pts	224	460	
EuroScore II	2.07	2.4	
Mortality	3.3%	2.8%	
Fast track	83 (36.7%)	291 (63.3%)	$p < 0.01$
NIV	55 (24.3%)	50 (10.9%)	$p < 0.01$
Pneumonia	6 (2.65%)	9 (2%)	$p = 0.557$
Septicaemia	13 (5.8%)	11 (2.4%)	$p = 0.024$
AKI	38 (16.8%)	71 (15.4)	$p = 0.642$
Bleeding	18 (8%)	21 (4.6%)	$p = 0.07$
Re-intubation	5 (2.2%)	13 (2.8%)	$p = 0.636$



Conclusions

The number of complex cardiac surgery procedures is increasing. Highly trained medical and nursing staff, multidisciplinary approach and implementation of specialized intensive care unit protocols undoubtedly contribute to better early postoperative outcomes.

References:

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