

Delirium in older people after cardiac surgery

-risk factors, dementia, patients' experiences and assessments

Helena Claesson Lingehall

Akademisk avhandling

som med vederbörligt tillstånd av Rektor vid Umeå universitet för
avläggande av medicine doktorsexamen framläggs till offentligt försvar i
Aulan, Vårdvetarhuset fredagen den 15 april 2016 kl 9:00.

Avhandlingen kommer att försvaras på svenska.

Fakultetsopponent: Professor, Anna-Karin Edberg,
Sektionen för hälsa och samhälle, Högskolan i Kristianstad, Sverige



Department of Nursing
Department of Surgical and Preoperative Sciences
Department of Community Medicine and Rehabilitation, Geriatric Medicine
Umeå University, Umeå, Sweden 2016

Organization

Umeå University
Department of Nursing
Department of Surgical and Preoperative Sciences
Department of Community Medicine and Rehabilitation, Geriatric Medicine

Document type

Doctoral thesis

Date of publication

24 Mars 2016

Author

Helena Claesson Lingehall

Title

Delirium in older people after cardiac surgery
-risk factors, dementia, patients' experiences and assessments

Abstract

Aim: The overall aim of this thesis was to investigate postoperative delirium in older people undergoing cardiac surgery with Cardiopulmonary Bypass (CPB); focusing on risk factors, dementia, and patients' experiences and to evaluate an assessment for screening for delirium.

Methods: All participants (n=142) were scheduled for routine cardiac surgery with CPB at the Cardiothoracic Surgery Department, Heart Centre, Umeå University Hospital, Sweden, between February and October 2009. Six structured interviews were conducted; preoperatively, on days one and four postoperatively, and during home visits one, three and five years after surgery (2010, 2012 and 2014). The assessments scales used in Studies I, II and IV were: the Mini-Mental State Examination (MMSE) for cognition, the Organic Brain Syndrome Scale (OBS) for delirium, the Geriatric Depression Scale 15 (GDS-15) for depression, Katz staircase with Activities of Daily Living (ADL) for participants' functional status and the Numerical Rating Scale (NRS) for pain. During the hospital stay, nursing staff used the Swedish version of Nursing Delirium Screening Scale (Nu-DESC) to assess delirium. Semi-structured interviews were also carried out in the one-year follow-up (III). Delirium, dementia and depression were diagnosed according to Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR). **Results:** Out of 142 patients 54.9% (78/142) developed delirium after cardiac surgery (I). Risk factors associated with delirium were: age, diabetes, gastritis/peptic ulcer, volume load during operation, increased ventilator time in intensive care, and increased temperature and sodium concentration in the intensive care unit. Out of 114 participants thirty (26.3%) developed dementia within the five years follow-up. It was shown that a lower preoperative MMSE score and postoperative delirium were factors independently associated with the development of dementia (II). One year after cardiac surgery, participants diagnosed with postoperative delirium described in detail feelings of extreme vulnerability and frailty. Despite, this participants were grateful for the care they had received (III). The most common symptom profile of postoperative delirium was hypoactive. The Swedish version of Nu-DESC showed a high sensitivity in detecting hyperactive delirium but low sensitivity in detecting hypoactive delirium in routine use by nurses (IV). **Conclusion:** Delirium was common among older patients undergoing cardiac surgery. Both predisposing and precipitating factors contributed to postoperative delirium. Preventive strategies should be considered in future randomized studies. It might also be suggested that cognitive function should be screened for preoperatively and patients who develop delirium should be followed up to allow early detection of symptoms of dementia. Whether prevention of postoperative delirium can reduce the risk of future dementia remains to be studied. To reduce unnecessary suffering, patients and next of kin should be informed about and prepared for the risk of developing delirium during hospitalization. The Swedish version of Nu-DESC should be combined with cognitive testing to improve the detection of hypoactive delirium, but further research is needed. Healthcare professionals need knowledge concerning postoperative delirium in order to prevent, detect and treat delirium, and also to avoid and relieve the suffering it might cause.

Keywords

Cardiac surgery, Cardiovascular disease, Delirium, Dementia, Nursing, Older people, Patients' experiences, Perioperative period

Language

English

ISBN

978-91-7601-423-3

ISSN

0346-6612

Number of pages

79+ 4 papers