Evaluation of Delirium in patients with Brain oximetry and lactate level after heart bypass surgery in Imam Khomeini Hospital in Ardabil in 2020

Abstract

Background: Cognitive disorders are among the most important and vital and psychological issues after surgery. Among these disorders, delirium is more important, so that its rate is higher in ICU wards and after surgery. The present study was conducted to investigate this relationship.

Aim: The aim of this study was to determine the level of delirium in patients with Brain oximetry and lactate level after heart bypass surgery in Imam Khomeini Hospital in Ardabil in 2020.

Materials and Methods: The present study was a descriptive cross-sectional analysis. In this study, patients who underwent cardiac bypass surgery at Imam Khomeini Hospital in Ardabil in 2020 and underwent surgery were included in the study. Patients' history and demographic characteristics were obtained. Prior to surgery, all patients underwent CBC testing, coagulation tests, and liver enzyme status. Lactate levels and cerebral oxygen saturation were measured 15 minutes before the start of cardiac bypass and 15 minutes after the start of cardiac bypass. Delirium was assessed in the ICU during 3-4 days with the MMSE questionnaire. Finally, all information including tests, questionnaire information and clinical status were entered into a checklist, and finally all information was entered into SPSS v25 and the data were analyzed.

Results: In this study, 80 patients were included in the study. The median age of patients was 66.5 years. Of the studied patients (67.5%), 54 were male and 26 (32.5%) were female. Of the studied patients (81.3%), 65 had delirium. According to Mann-Whitney test, the relationship between lactate level and cerebral oxygen saturation measured during surgery between the two groups of patients with and without delirium was not significant. Systolic ($P = 0.026$) and diastolic ($P = 0.023$) blood pressure measured during surgery had a statistically significant difference between the two groups. There was no significant correlation between cerebral oxygen saturation and serum lactate measured during surgery.

Conclusion: Based on the results of this study, no statistically significant relationship was observed between lactate levels and brain oxygen saturation measured during surgery with delirium in patients with cardiac bypass surgery.

Keywords: Cardiac bypass, Cognitive disorders, Delirium