Incidence and Clinical Outcomes of Delirium in Critically Ill Medical Patients in Thai Population

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Background: Delirium is a common complication in hospitalized patients. Its incidence varies from 20% to 40% among general patients and increases to 80% among critically ill patients. Moreover, delirium is associated with poor clinical outcomes, including longer hospital length of stay, longer duration of mechanical ventilation, and higher mortality rate. Nonetheless, there are limited data in Thai patients.

Objective: This study aimed to determine incidence, risk factors, and clinical outcomes of delirium in critically ill medical patients among Thai population.

Methods: A prospective cohort study was conducted in a university hospital. Patients admitted to our medical intensive care units (ICUs) between October 2016 and March 2017, were enrolled. Delirium was daily diagnosed by Confusion Assessment Method for the ICU (CAM-ICU) Thai version. Baseline characteristics, medications used in ICUs, and clinical outcomes were collected. Risk factors of delirium were identified using logistic regression.

Results: A total of 270 patients participated in our study. The majority were male (58.5%), mean age of 63.3 years and mean APACHE II score of 15.68. The overall incidence of delirium in our ICUs was 47.4%. Factors for delirium were male (adjusted OR 2.36, p=0.015), norepinephrine (adjusted OR 7.37, p<0.001), midazolam (adjusted OR 5.44, p=0.006), and fentanyl (OR 2.82, p=0.01). The delirious patients significantly had longer median length of ICU stay (5.5 vs 2 days, p <0.001) and lower median number of ventilator free day in 28 days (0 vs 27 days, p <0.001) than non-delirious patients. The in-hospital mortality rates of delirious patients tended to be higher than that of non-delirious patients, i.e. 53.1 % vs 18.4%, p <0.001. However, after adjusting for age, sex, APACHE II score, and medications, delirium was not associated with mortality (OR 2.08, p=0.058).

Conclusion: The incidence of delirium in patients admitted to ICUs is high. Because significant risk factors of delirium include the use of norepinephrine, midazolam, and fentanyl, minimizing the use of sedative drugs might potentially reduce the chance of developing delirium. Delirious patients have significantly longer length of ICU stay and longer duration of ventilator uses. The interventions for delirium prevention or treatment should be studied to reduce morbidity of patients admitted to ICU.

Keywords: Delirium, Critically ill, Thai population