Optimizing Delirium Prediction Model in the Management of Hospitalized Elderly Patients

Kuntjoro Harimurti

1 Department of Internal Medicine, Faculty of Medicine, University of Indonesia-Cipto Mangunkusumo Hospital.
2 Center for Clinical Epidemiology and Evidence-Based Medicine, Faculty of Medicine, University of Indonesia-
Cipto Mangunkusumo Hospital, Jakarta, Indonesia. Correspondence mail: kuntjoro.harimurti01@ui.ac.id.

One of consequences of aging population in almost all part of the world is increasing rate hospitalization of elderly patients. Acute conditions are the most reasons for hospitalization among this population, but they are usually already have many chronic comorbidities and impairments resulting more complications and difficult managements in hospital. One of the common problems among hospitalized elderly patients is delirium, which can already occured when patients were admitted or develop during hospitalization. Some studies showed that prevalence of delirium on admission among elderly patients are between 10-31%, and the incidence of delirium during hospitalization are 3-29%, depends on in what unit patients were hospitalized.

Delirium can be a sign of other serious medical conditions, such as infections, metabolic disturbances, hypoxia, dehydration, or drugs side effect. Delirium commonly occurs in patients with multiple chronic diseases, cognitive impairment, decrease of functional status, and malnutrition. Delirious patients have worse outcomes compared to those who not delirious, in terms of length of hospital stay, loss of functional status, prolong cognitive impairment, and higher rate mortality. Nevertheless, diagnosis of delirium frequently missed by doctors or other hospital team, either because the diagnosis of delirium difficult to established or because low awareness on those who have high risk for development of delirium.

In this issue, Isfandiaty et al. report their retrospective cohort study on prediction of delirium in hospitalized elderly patients. Based on previously identified risk factors and precipitating factors, authors found that infections (with and without sepsis), cognitive impairments, and decrease of functional status are independent predictors for development of delirium during first 14-days of hospitalization. Authors also established a prediction model which can be easily applied in daily clinical practice through a scoring system. Using this scoring system, a clinician can classified an elderly patient into her/his risk for development of delirium and therefore increasing awareness for the delirium occurrence during hospitalization.

Of course, the scoring system is not meant to take over the job of the doctor. It is intended to help doctor make decisions by providing more objective estimates of probability for developing delirium in hospitalized elderly patients, as a supplement to other relevant clinical information. In high risk patients, doctor should give more attention and do more effort to prevent delirium based on known predisposing and precipitating factors. In addition, the information can also incorporated in patient and family education regarding the prognosis of patients and complication due to hospitalization.

The use of this scoring system is not straight forward, it needs validation—both internal and external validations—before it can be applied in clinical practice. Therefore, we encourage the authors and also other researchers to do the validation study, to test whether this delirium prediction model is also valid when used in other setting and population. Furthermore, considering this kind of research (defined as clinical epidemiology research) have potential useful application in clinical practice, we also encourage other colleagueagues to submit their clinical epidemiology researches in this Journal.
researches are the researches which have aims that compatible to clinical challenges in daily practice, i.e.: to establish diagnosis, to determine etiology/risk factors of a disease, to predict prognosis, and to choose best treatment. We believe the evidences from clinical epidemiology researches will be useful for our colleagues who works as clinicians in the management of their patients.

REFERENCES