P-21 Validation and update of CURB-65 in older patients with clinically suspected sepsis: a retrospective cohort study

Ryuto Fujiishi [a] *[Associate, Senior Resident]*, Toshihiko Takada [a, b], Tetsuhiro Yano [a], Kotaro Fujii [a], Michio Hayashi [a], Jun Miyashita [a, b], Teruhisa Azuma [a], Shingo Fukuma [a, b, c], Shunichi Fukuhara [a, b]

[a] Department of General Medicine, Shirakawa Satellite for Teaching And Research (STAR) in General Medicine, Fukushima Medical University,
[b] Department of Healthcare Epidemiology, School of Public Health in the Graduate School of Medicine, Kyoto University ,
[c] Human Health Sciences, Graduate School of Medicine, Kyoto University

Introduction: Predicting the prognosis of older patients with sepsis is crucial for the appropriate management and shared-decision making with patients and their families. While CURB-65 score was originally developed to predict the prognosis of patients with community-acquired pneumonia, its utility in patients with sepsis has been reported. However, it has not been specifically validated in older patients despite global super-aging societies. The aim of this study was to validate and update the CURB-65 in older patients with clinically suspected sepsis.

Design: Retrospective cohort study.

Setting: Shirakawa Kosei General Hospital, an acute care hospital in Japan

Participants: Patients older than 65 years old who had 2 sets of blood cultures taken between 1 April 2015 and 31 March 2017.

Main outcome measures: 30-day mortality

Statistical analysis: Calibration was evaluated with a calibration plot, while discrimination was assessed with the area under the receiver operating characteristic curve (AUC).

Results: Data from 921 patients were analyzed; mean age was 82.3 years (standard deviation 8.5), 50.0% were women, and 30-day mortality was 7.6%. The original CURB-65 visually showed good calibration. However, the AUC was 0. 65 (95% confidence interval (CI) 0.59, 0.71), indicating poor discrimination. To improve the performance of CURB-65, we updated the model by simply adding one point to the original score when age was 75-84 years or the peripheral capillary oxygen saturation level was < 90% and two points when age was >=85 years. The updated model showed visually better calibration. The AUC of the updated model was 0. 70 (95% CI 0.64, 0.76), with statistically significant improvement (p=0. 026).

Conclusions: The performance of the original model of CURB-65 was insufficient in older patients with clinically suspected sepsis. Our updated model can discriminate between patients with poor and good prognosis more accurately than the original model.