KSN 2017 Abstract

KSN-17-O068

A simplified protein-energy wasting scoring system for survival prediction in Korean incident hemodialysis patients

Young eun KWON[1], Hye min CHOI[1], Dong-jin OH[1], *Shin-wook KANG[2]

[1]Department of Internal Medicine, Seonam Univeristy Myoungji Hospital, Korea,South, [2]Department of Internal Medicine, Yonsei University College of Medicine, Korea,South

Objectives : Even though protein-energy wasting (PEW) is a crucial risk factor for survival in end-stage renal disease (ESRD) patients, a convenient and reliable assessment method to determine PEW in ESRD patients has not been established. However, a recent study proposed a simplified PEW scoring system based on the PEW diagnostic criteria, which was predictive for European ESRD patients' survival. This study aimed to validate the prognostic significance of the simplified PEW score in Korean incident hemodialysis patients.

Methods : Data were retrieved from a prospective cohort study from the Clinical Research Center for ESRD in Korea. The simplified PEW scoring system is graded from 0 (the worst) to 4 (the best), which consists of four components: serum albumin, body mass index, serum creatinine/body surface area, and normalized protein nitrogen appearance. Since the number of patients in the PEW score 0 group was too small (n=14), the PEW score 0 and 1 groups were combined into a same group. The survivals of the four groups (PEW score 0~1, 2, 3, and 4) were compared by Kaplan-Meier plot, and multiple Cox regression analysis was performed to identify the association between the PEW score and patients' survival.

Results : A total number of 430 patients were included in this study. The numbers of patients in the four score groups were 77 (score 0~1), 158 (score 2), 145 (score 3), and 50 patients (score 4). The mean age was 61.1 years and male was 59.8%. Kaplan-Meier plot revealed that the lowest PEW score group had the worst cumulative survival or there was a significant difference in patient survival across the groups (log-rank test, P<0.001); 2-year mortality rates of 15.6% in the score 0~1 group, 8.2% in the score 2 group, 1.4% in the score 3 group, and 2.0% in the score 4 group. In multiple Cox regression analysis, moreover, PEW score was a significantly independent factor for mortality even after adjusting for confounding variables (PEW score 0~1 as a reference; PEW score 2, hazard ratio [HR] 0.450, 95% confidence interval [CI] 0.262-0.772, P=0.004; PEW score 3, HR 0.165, 95% CI 0.070-0.385, P<0.001; and PEW

score 4, HR 0.101, 95% CI 0.013-0.760, P=0.026).

Conclusions : A simplified PEW scoring system is a practical and reliable method for predicting mortality in Korean incident hemodialysis patients.

Keywords : Protein-energy wasting, scoring system, mortality, hemodialysis