Study: qSOFA Predicts Mortality in ED Patients with Suspected Infection

According to an international study published in *JAMA*, the quick Sequential Organ Failure Assessment (qSOFA) more accurately predicts in-hospital mortality than the systemic inflammatory response syndrome (SIRS) or severe sepsis criteria among emergency department patients with suspected infection.

See Also: Study: SOFA Score Helps Predict ICU Mortality

These findings provide support for the Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3) criteria in the ED setting. Due to poor specificity and sensitivity, the SIRS and the previous definitions of "sepsis" and "severe sepsis" were replaced with the new state of sepsis defined as a life-threatening organ dysfunction caused by a dysregulated host response to infection.

Sepsis is now identified by an increase of at least 2 points in the SOFA score in patients with a suspicion of infection. The qSOFA score, a surrogate for SOFA in settings in which all components of SOFA are not routinely measured, was introduced to screen for patients likely to have sepsis.

The new study assessed the external validity of the recently developed Sepsis-3 criteria among patients presenting to the ED and compared these criteria to prior guidelines that use the SIRS score and serum lactate levels. The international prospective cohort study was conducted in France, Spain, Belgium, and Switzerland between May and June 2016. In the 30 participating emergency departments, for a four-week period, consecutive patients who visited the EDs with suspected infection were included. All variables from previous and new definitions of sepsis were collected. Patients were followed up until hospital discharge or death.

Of 1,088 patients screened, 879 were included in the analysis. Median age was 67 years (interquartile range, 47-81 years), 414 (47 percent) were women, and 379 (43 percent) had respiratory tract infection. Overall, in-hospital mortality was 8 percent. For patients with qSOFA scores less than 2, the mortality rate was 3 percent (95% CI, 2%-5%) vs. 24 percent (95% CI, 18%-30%) for patients with a qSOFA score of 2 or higher (absolute difference, 21%; 95% CI, 15%-26%).

"The very low mortality rate of patients with qSOFA score less than 2 is a strong argument to replace SIRS without the risk of missing critically ill patients," the study says. "Moreover, there was no difference in the rate of the false negative of SIRS and qSOFA for the prediction of death or ICU stay of more than 72 hours (7%; 95% CI, 4%-10% and 9%; 95% CI, 7%-11%).

Although qSOFA was not meant to replace SIRS in the definition of sepsis but rather help clinicians for early detection of sepsis, the authors note that these results suggest that ED patients with infection and a qSOFA score of 2 or more should be considered for sepsis even in the absence of a SOFA score of 2 or more.

Corresponding author, Yonathan Freund (pictured), told *ICU Management & Practice* in an email that these findings were beyond the researchers' expectations. They hoped that they would be able to validate qSOFA by reporting a difference of at least 10% of mortality; they actually reported a 21% difference between the two groups.

Freund commented that with qSOFA being highly predictive of severe outcome, infected patients with at least 2 points of qSOFA might be screened very early in the ED. Patients at higher risk of sepsis could benefit from an appropriate care bundle that will be initiated at an early stage, and to a more accurately selected group of patients.

Source: *JAMA*

Published on : Tue, 17 Jan 2017