Early identification and treatment of septic shock to save lives

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(Medical Xpress) -- Recognition of severe septic shock early and starting a patient on an effective antibiotic treatment immediately is critical to saving lives, according to an editorial by two Virginia Commonwealth University physicians published in the May 31 issue of the *New England Journal of Medicine*.

In the editorial, Richard P. Wenzel, M.D., professor in the Department of Internal Medicine in the VCU School of Medicine, and Michael B. Edmond, M.D., M.P.H., chair of the Division of Infectious Diseases, noted that approximately 20 adjuvant drugs, apart from antibiotics, have failed in trials of sepsis in the last two decades. They concluded that new therapies will emerge only from a "more crystalline view of the biology of sepsis."

Wenzel and Edmond based their observations on a multi-institutional study of a controversial drug for sepsis known as drotrecogin alfa. According to Wenzel and Edmond, the weight of evidence now should "end any further pursuit of a niche for Human Activated Protein C in sepsis."

According to Wenzel, an initial study in 2001 of the drug showed modest success in treating sepsis. However, the favorable outcome of slightly reduced mortality could not be replicated in lower risk adult patients or in children with sepsis. The international team testing the new drug proceeded to enroll a large number of patients with the most severe stage of sepsis - septic shock - and waited for at least four hours of shock to

enroll them. The drug had no effect on mortality different from the placebo. However, both study groups received antibiotic therapy.

Based on their analysis, Wenzel and Edmond noted that in studying mortality from an acute infection like sepsis, investigators fail to consider the component of death from infection separate from the component from underlying diseases.

“In other words, some people die with sepsis but not from it, and they die because they have serious underlying diseases like lung or heart disorders or cancer,” said Wenzel.

The VCU team showed that failing to consider each component leads to errors in calculating the necessary number of subjects in a clinical trial. However, Wenzel and Edmond also said that the trends in the recent trial were slightly in favor of placebo being safer that the drug.

Provided by Virginia Commonwealth University