
Sepsis Mortality Better at High-Volume Centres



According to a research from the Perelman School of Medicine at the University of Pennsylvania, there is a clear relationship between hospitals that treat the most cases of severe sepsis and lower rates of inpatient deaths among those patients. Sepsis is one of the most time-sensitive and hard-to-detect illnesses in medicine. Patients are more likely to survive this condition in a hospital that sees a higher volume of sepsis cases.

The study was led by David F. Gaieski, MD, Associate Professor of Emergency Medicine at Penn and has been published online in the American Journal of Respiratory and Critical Care Medicine. Other authors include Michael Kallan, MS and Mark Mikkelsen, MD, MSCE. The study was supported by an educational grant from the Beatrice Wind Gift Fund.

The primary reason for the higher rate of survival is the fact that in most cases, symptoms of sepsis are non-specific and are often similar to those of a viral infection. Physicians who see a larger volume of patients with sepsis are more likely to diagnose the condition at an early stage and can start the treatment immediately, thus increasing the possibility of survival.

"Our results provide preliminary support for the idea that severe sepsis patients may benefit from treatment at

higher-volume specialty centres much the same as the reality that patients who've suffered severe injuries are brought to designated trauma centres and those who've had strokes typically come to certified stroke centres," Galeski points out.

The incidence of severe sepsis is becoming increasingly common and the in-hospital mortality rate is as high as 38 percent. Overall, this illness costs the US health system nearly \$24 billion annually. Septicaemia is also listed as the eleventh leading cause of death in the United States according to the Centers for Disease Control and Prevention (CDC).

The study looked at hospital admissions and examined the relationship between annual case volume, organ dysfunction and survival in rural and urban locations over a period of seven years, from 2004 to 2010. In-patient information of 914,200 patients with severe sepsis was gathered from a large national database.

The study found an inverse relationship between severe sepsis case volume and inpatient mortality, in both urban and rural hospitals. The study also found that while in-hospital mortality was 28 percent, this increased to 36 percent when treated in higher-volume hospitals (classified as those who treated 500 more cases per year) as compared to lower-volume hospitals (classified as those who treated less than 50 cases per year). In addition, the study reports that the most common organ system dysfunctions were renal, respiratory and cardiovascular and that mortality from severe sepsis increased as the number of organ dysfunctions increased.

Source: University of Pennsylvania Health System

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