

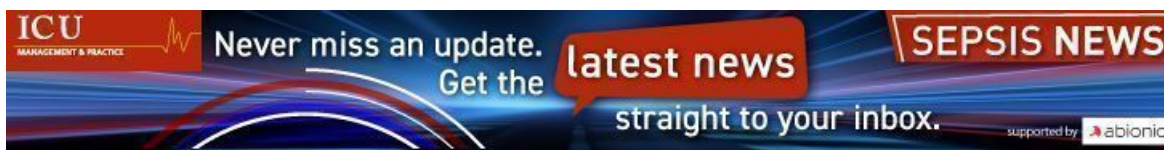
ICU vs High-Dependency Care Unit for Septic Shock



Sepsis is a life-threatening disease with high mortality. More than 10,000 people die from sepsis every year in Japan. Septic shock is when sepsis is associated with circulatory and cellular metabolic abnormalities. International guidelines recommend the use of antimicrobial therapy and source control with drainage or surgery, intensive care with fluid resuscitation and vasopressors for septic shock. However, there is no clear recommendation on where to treat patients with septic shock.

As per the "Sepsis Treatment System" in the Japanese Clinical Practice Guidelines 2020, patients with sepsis who don't respond to fluid resuscitation should be managed in units that can provide intensive care. But there is no data comparing the clinical outcomes of patients admitted to intensive care units (ICUs) versus non-ICU settings.

It is also important to consider the problems with intensive care in Japan, particularly the lower number of certified intensivists and intensive care beds. There are three categories of acute hospital beds in Japan. These include ICUs, high-dependency care units (HDUs) and general wards. Compared with HDUs, ICUs require more nurses/staff, greater space and are more expensive. ICUs are further divided into two categories - ICUs located in large hospitals (e.g. university hospitals). These ICUs have higher standards for full-time staff and facilities and usually have two or more certified intensivists, certified nurses, and certified clinical engineers.



The other category of ICUs has a full-time physician but may not have certified intensivists. HDUs and general wards do not always have a full-time physician. Large hospitals in Japan often have both ICU and HDU, while middle-sized hospitals only have ICU or HDU. Community-based hospitals do not usually have intensive care units. The decision of admission to either ICUs or HDUs depends on the medical system of each region, the availability of beds, and the judgment of the attending physician. Critically ill patients in Japan are often admitted to HDUs.

In this study, the researchers explore which units should admit patients with septic shock. They compare mortality data and resource use between ICU and HDU admissions. The study includes adult patients with septic shock admitted to ICUs or HDUs between January 2010 and February 2021. Study patients are divided into two groups based on admission to an ICU or HDU on the day of hospitalisation. The primary outcome of the study was 30-day all-cause mortality. Secondary outcomes included length of ICU or HDU stay and length of hospital stay. 10,818 hospitalisations for septic shock are included in the analysis. 6584 were in the ICU group, and 4234 were in the HDU group.

Findings show that patients admitted to the ICUs had lower 30-day mortality. However, no significant difference in hospital length of stay or ICU or HDU length of stay was observed.

These findings show an association between ICU admission and lower 30-day mortality in patients with septic shock.

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