ICU
MANAGEMENT & PRACTICE

Timing of Death Among Patients With Septic Shock

Over the last few years, many advances have been made in the critical care of patients with septic shock. Both diagnosis and treatment strategies have improved. However, the mortality rates of patients with septic shock have a bimodal distribution; some patients die within a few days from it, while others die a few weeks later from other comorbidities.

A study was conducted to assess the trends in the timing of death among patients with septic shock from 1994 to 2014. The retrospective study analysed hospital data from patients 18 years or older who had been diagnosed with septic shock. To ensure that the patients had the same diagnosis, the International Classification of Diseases (9th edition) Clinical Modification Codes consistent with acute respiratory failure receiving mechanical ventilation and patients with both septic shock and acute respiratory failure receiving mechanical ventilation were used. Data were collected from patients over 20 years between the years 1994-2014.

Findings showed that the 48-hour mortality rates were lower in patients with septic shock (21.2% to 10.8%) and septic shock with acute respiratory failure requiring mechanical ventilation (19.1% to 13.4%). But mortality rates increased among patients with acute respiratory failure who required mechanical ventilation (7.9% to 9.8%).

Study researchers also looked at the 3-14 day mortality and noted that it decreased among patients with septic shock (22.1% to 15.5%), septic shock with acute respiratory failure requiring mechanical ventilation (28.7% to 22.4%) and acute respiratory failure requiring mechanical ventilation (16.8%- 15%). Mortality after 14 days dropped in all groups: septic shock (12.6% to 6.7%, septic shock with acute respiratory failure requiring mechanical ventilation (20.3% to 11.3%), and acute respiratory failure (12.7% to 5.8%).

The findings from this study show that septic shock mortality at 48 hour, 3-14 days, and more than 14 days later had decreased significantly over the past 20 years. However, patients with acute respiratory failure only experienced a significant decrease in mortality during the later phase of the study (greater than 14 days).

Conclusion

There is no question that there have been improvements in the critical care management of septic shock. Diagnosis is generally made early, and treatment is initiated promptly. However, there are different risk factors associated with early versus late deaths in patients with septic shock. Early deaths have often hours to multiorgan failure caused by the infection, and delayed deaths have been associated with ICU-acquired

complications, other comorbidities, or end of life decisions. By being aware of these trends, this study offers healthcare workers different strategies in managing critical illness due to septic shock. At present, when patients have septic shock, the management is only focused on the acute problem. Comorbid conditions, end of life decision and ICU complications are usually not the initial target of intervention when managing patients with septic shock.

Source: Critical Care Medicine
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