In-hospital mortality and misdiagnosis of site of infection

Sepsis is one of the most dangerous and life-threatening conditions encountered in the intensive care unit. Sepsis is considered to be an emergent disease similar to trauma, heart attack, and stroke. But sepsis is characterised by various aetiologies and pathophysiological conditions, and that is why it is very complicated to treat compared to other time-sensitive emergencies.

For effective sepsis care, rapid detection, early resuscitation, and appropriate antibiotic use are all crucial elements. Provision of this appropriate care is also dependent on accurate identification of the site of infection.
This study was conducted to investigate the relationship between misdiagnosis of the site of infection at initial examination and in-hospital mortality. 974 patients from 37 emergency departments were included in the study. Misdiagnosis at the site of infection was defined as a discrepancy between the site of infection that was suspected at initial examination and the site at final diagnosis. Infections that remained unidentified were also included. Researchers then compared in-hospital mortality between patients who were misdiagnosed with patients who were diagnosed correctly.

Findings showed that 11.6% of the patients that were included in the study were misdiagnosed, while 32.7% of patients had an unidentified site of infection. 67.3% of the patients' initial suspected site of infection was incorrect. 4.2% patients with lung infection, 3.8% patients with intra-abdominal infections, 13.6% patient with urinary infections, 10.9% patients with soft tissue infections and 58.3% patients with CNS infections were misdiagnosed and turned out to have an infection at a different site. In-hospital mortality occurred in 15% of the patients. Misdiagnosed patients showed higher mortality rates even after adjusting for background, site of infection, and severity.

Overall, the findings showed that among patients with infection, misdiagnosed site of infection was associated with a greater than 10% increase in in-hospital mortality. Patients in the misdiagnosed group also had longer stay in the ICU and ventilator compared to those who were diagnosed correctly. Among the four major sites of infection, patients with urinary tract and soft-tissue infections were at high risk of misdiagnosis or unidentified site of infection. Patients who had an infection at rare sites also had a higher risk of misdiagnosis or unidentified site of infection. Misdiagnosis at an early stage or unidentified site of infection could double the odd ratio of in-hospital mortality.

These findings show a correlation between mortality and site of infection. They also highlight the importance of enhancing the precision of diagnosis and subsequent treatment.

Source: Critical Care
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Published on : Tue, 11 Jun 2019

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