Neuropsychiatric impairment in a septic shock survivor

Adina Bowe, MD, and Veena Bhanot, MD

The effect of sepsis survivorship on cognition is a substantially underrecognized public health problem.[1] Sepsis survivorship has implications for patients' families and the health care system.[2] Research has demonstrated that older patients may develop impaired cognition and functional capacity after severe sepsis[3]; limited evidence shows neurocognitive decline in non-geriatric patients.[3] There are no reports of exacerbation of psychiatric illness after severe sepsis or septic shock, and existing literature indicates that the causative factors, epidemiology, and predisposition that may worsen psychiatric illness after septic shock are poorly defined.

Case: Sepsis-induced cognitive decline?

Following an intensive care admission for septic shock, Mr. J, age 49, presents to the outpatient behavioral medicine department with worsening mood, lethargy, agitation, suicidal ideations, hallucinations, and poor work performance for 10 months. He was diagnosed with major depressive disorder 13 years prior, but has no history of hospitalization for psychiatric illness. His depressive symptoms respond well to paroxetine, 60 mg/d. Subsequently, Mr. J becomes delusional, has intense command hallucinations, and attempts suicide, resulting in hospitalization. Neuropsychological testing reveals dementia and significant psychiatric distress, including elevated levels of depression and suicidal ideation. He is stabilized with duloxetine, 90 mg/d, and quetiapine, 50 mg/d. Two years later, Mr. J still exhibits cognitive and psychiatric disturbances.

Long-term results

The underlying mechanism of septic shock on the brain may be similar to the mechanisms that exacerbate psychiatric illnesses. This case validates the use of neuropsychological testing in septic shock survivors and encourages recognition of the effect septic shock has on neuropsychiatric illness.

References

1. Iwashyna TJ, Ely EW, Smith DM, et al. Long-term cognitive impairment and functional disability among survivors of severe sepsis. JAMA. 2010;304(16):1787-1794.
2. Safdieh J. Cognition after sepsis. Neurology Alert. 2010; 29(4):30-31.
3. Williams GS. Older severe sepsis survivors are at risk for cognitive and developmental disability. Pulmonary Reviews. 2010;15(12):17-18.

Dr. Bowe is a resident in Internal Medicine and Psychiatry and Dr. Bhanot is a Professor, Department of Behavioral Medicine and Psychiatry, West Virginia University, Charleston Area Medical Center, Charleston, WV.

Disclosure

The authors report no financial relationship with any company whose products are mentioned in this article or with manufacturers of competing products.