Sepsis associated encephalopathy: what is going on?

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Sepsis is a systemic inflammatory response syndrome occurring secondary to infection and labeled severe when end organ dysfunction or tissue hypoperfusion transpires. Encephalopathy is a common complication of sepsis. Specially, a diffuse brain dysfunction that occurs secondary to infection in the body without overt CNS infection was called "sepsis-associated encephalopathy (SAE)". The severity of SAE can range from mild delirium to deep coma and morbidity and mortality increase with disease severity. Asterixis, confusion/disorientation, decreased level of consciousness, fluctuating level of arousal, inattention, multifocal myoclonus, seizures, tremor, etc. were clinical features of SAE. SAE is complex and multifactorial including a number of intertwined mechanisms such as vascular damage, endothelial activation, breakdown of the blood brain barrier, altered brain signaling, brain inflammation, and apoptosis. However, the exact pathophysiology of SAE is not well delineated. No specific markers for SAE exist, so diagnosis relies on exclusion of primary CNS infection and other causes of encephalopathy. The mainstay of management of SAE hinges on early detection of decreased level of consciousness. Because SAE is not a consequence of direct CNS infection, treatment focus remains an appropriate management of the systemic infection. In this session we will discuss the epidemiology, clinical presentation, pathophysiology, management and prevention of SAE.

Key Words: Sepsis-associated encephalopathy, Septic encephalopathy

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