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DIAGNOSTIC CHALLENGES AND CLINICAL COURSE OF SEPSIS IN IMMUNOCOMPROMISED PATIENTS

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Sepsis is a life-threatening condition caused by a dysregulated host response to infection. Immunocompromised patients represent a growing and heterogeneous population in the intensive care unit (ICU), in whom sepsis remains a major cause of morbidity and mortality.

Alterations in immune function can significantly modify the host response to infection and the clinical phenotype of sepsis. Consequently, immunocompromised patients may present with atypical symptoms and attenuated or modified cardinal signs of inflammation, making early recognition and diagnosis challenging.

Therefore, clinical decision-making should not rely on a single biomarker but rather on an integrated assessment of the overall clinical presentation, organ dysfunction, microbiological findings, imaging studies, and the patient's underlying immune status.

Immunocompromised patients have a higher risk of mortality than immunocompetent individuals, with neutropenia and specific patterns of immunodeficiency independently associated with increased short-term mortality.

Persistent inflammation, immunosuppression, and catabolism syndrome (PICS) represents a self-perpetuating cycle of persistent organ dysfunction, inflammation, and catabolism, resulting in sarcopenia and immune dysfunction that may predispose patients to recurrent infections, metabolic disturbances, and impaired bone marrow function.

A multimodal, timely, and personalized therapeutic approach addressing persistent inflammation, immunosuppression, and catabolism is needed for PICS in immunocompromised patients; however, optimal management remains an active area of research.

Therefore, early recognition of sepsis and timely initiation of appropriate antimicrobial therapy are crucial for improving clinical outcomes in immunocompromised patients.

Keywords: Sepsis, Immunocompromised patients, PICS, Organ dysfunction.