



Evolving Issues in Critical Care and Sepsis

Edited by Howard Bauchner, MD, Phil B. Fontanarosa, MD, MBA, and Derek C. Angus, MD, MPH

Research

Assessment of Clinical Criteria for Sepsis

762

Seymour and colleagues—members of the Third International Consensus Definitions Task Force (SEPSIS-3) convened to reexamine the definitions of sepsis and septic shock—evaluated the comparative performance of clinical criteria to identify patients with suspected infection at risk of sepsis in a retrospective cohort study involving 148 907 intensive care unit (ICU) patient encounters (primary cohort). The authors assessed the predictive validity for in-hospital mortality using the Sequential [Sepsis-related] Organ Failure Assessment score (SOFA), the Systemic Inflammatory Response Syndrome (SIRS) criteria, the Logistic Organ Dysfunction System (LODS) score, and a new model termed quick SOFA (qSOFA) in the primary cohort and confirmed their findings in analyses of data from 706 399 additional patient encounters. The authors' findings support use of SOFA for ICU encounters with suspected infection and qSOFA for suspected infection outside the ICU. In an Editorial, Abraham discusses strengths and limitations of evolving definitions for sepsis and septic shock.

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Defining and Assessing Clinical Criteria for Septic Shock

775

Shankar-Hari and colleagues from the Sepsis Definitions Task Force summarize the consensus process undertaken to update the definition of septic shock and to specify clinical criteria that identify adult patients with septic shock. The predictive validity of the criteria were assessed in 3 patient cohorts representing more than 3 million patients. Key clinical criteria for septic shock—defined as a subset of sepsis with both circulatory and metabolic abnormalities associated with a greater risk of mortality than sepsis alone—are the presence of both hypotension requiring vasopressor therapy to maintain mean arterial pressure of 65 mm Hg or greater and serum lactate level greater than 2 mmol/L after adequate fluid resuscitation.

📖 Editorial 757 Related Articles 762 and 801

Opinion

Viewpoint

747 New Strategies for Effective Therapeutics in Critically Ill Patients
MA Matthay and KD Liu

749 Critical Care and the Brain
RC Tasker and DK Menon

751 Organizing Critical Care for the 21st Century
DK Costa and JM Kahn

753 Critical Care in Resource-Restricted Settings
AM Dondrop, SS Iyer, and MJ Schultz

A Piece of My Mind

755 What Now? What Next?
J Hansen-Flaschen

Editorial

757 New Definitions for Sepsis and Septic Shock: Continuing Evolution but With Much Still to Be Done
E Abraham

759 The Acute Respiratory Distress Syndrome: Dialing in the Evidence?
BJ Clark and M Moss

LETTERS

Research Letter

817 Histone-Associated Thrombocytopenia in Patients Who Are Critically Ill
Y Alhamdi and Coauthors

Comment & Response

819 School-Based Myopia Prevention Effort

820 Differences in Institutional Support by Sex

822 Correction

Instructions for Authors

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Editor in Chief
Howard Bauchner, MD

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OF CONTINUOUS
PUBLICATION

Research (continued)

ARDS: Epidemiology, Patterns of Care, and Mortality 788

In an analysis of prospective data collected during 4 consecutive weeks from 29 144 patients undergoing invasive or noninvasive ventilation in 459 intensive care units in 50 countries, Bellani and colleagues found that 10.4% of patients met diagnostic criteria for acute respiratory distress syndrome (ARDS); however, ARDS appeared to be underrecognized, patterns of care suggested undertreatment, and mortality rates were high. In an Editorial, Clark and Moss discuss the need to improve recognition of ARDS and to ensure patients receive evidence-based care.

📖 Editorial 759

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Clinical Review & Education

Consensus Definitions for Sepsis and Septic Shock 801

Definitions of sepsis and septic shock were last revised in 2001. In light of advances in the understanding of the pathophysiology, management, and epidemiology of sepsis, the Society of Critical Care Medicine and the European Society of Intensive Care Medicine convened a task force to evaluate and update the definitions. Singer and colleagues—members of the Sepsis Definitions Task Force—describe the consensus development process, highlight key findings from the evidence synthesis, and summarize task force recommendations for applying the revised definitions in clinical care.

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Patient Choice in Management of Uncomplicated Appendicitis 811

An article in *JAMA Surgery* reported that when chosen by the family, nonoperative management was an effective treatment strategy for children with uncomplicated acute appendicitis. In this From the JAMA Network article, Telem discusses the efficacy and safety of nonoperative treatment of uncomplicated appendicitis and highlights the need for decision tools to inform patient-physician decision making in the treatment of appendicitis.

Topical NSAIDs for Acute Musculoskeletal Pain 813

This JAMA Clinical Evidence Synopsis by Derry and colleagues summarizes a Cochrane review of 61 randomized trials (8644 total participants) that evaluated topical nonsteroidal anti-inflammatory drugs (NSAIDs) to treat musculoskeletal pain—primarily uncomplicated sprains, strains, and contusions. The review found that compared with placebo, topical NSAIDs were associated with greater pain relief and no increase in adverse events.



Humanities

The Art of JAMA

732 *Spine Patch*, 1956.
Warrington Colescott (1921-).

Poetry and Medicine

823 Strata

JAMA Revisited

824 Postoperative Sepsis

JAMA Patient Page

832 Asthma Attacks

NEWS & ANALYSIS

Medical News & Perspectives

739 New Sepsis Diagnostic Guidelines Shift Focus to Organ Dysfunction

741 Health Agencies

Researchers Find 3 More Glaucoma-Related Genes

CMS Grants to Address Social Needs of Beneficiaries

NIAID Funds Research on Nonantibiotic Treatments of Infection

742 Clinical Trials Update

Mega Ovarian Cancer Screening Trial Shows Modest Reduction in Mortality

Antiplatelet Drug Doesn't Reduce Pain of Sickle Cell Anemia

Melatonin to Improve Skin and Sleep in Pediatric Dermatitis

743 News From the CDC

Petroleum Workers' Hydrocarbon Risk Cruise Ship Illness Declines

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Editor's Audio Summary

Howard Bauchner, MD, and Derek C. Angus, MD, MPH, summarize and comment on this week's issue.

Author Interview

AUDIO and VIDEO Drs Deutschman, Singer, and Angus discuss updated definitions and clinical criteria for sepsis and septic shock.

Departments

727 Staff Listing

815 CME Questions

826 JAMA Network Abstracts

828 Classified Advertising

830 Journal Advertiser Index

831 Contact Information