

Beyond the Golden Hours Caring for Septic Patients After the Initial Resuscitation



Jean P. Gelinas, MD, Keith R. Walley, MD*

KEYWORDS

• Sepsis • Resuscitation • Delirium • Mechanical ventilation • Immune function

KEY POINTS

- Recognition and management of agitation, delirium, and pain are essential.
- Low tidal volumes and low mean airway pressures during mechanical ventilation should be used.
- The adverse consequences of volume overload can be avoided by careful assessment of volemia.
- Following the initial septic inflammatory response, immune function is profoundly altered, which increases susceptibility to an array of persistent viral infections.

INTRODUCTION

Critically ill patients consume approximately 20% of hospital resources, which amounts to 1% of the gross domestic product of the United States.¹ Sepsis and septic shock are among the leading causes of intensive-care-unit (ICU) admission worldwide resulting in about 2 million ICU admissions per year for sepsis.² Encouragingly, mortality and morbidity are decreasing. A retrospective observational study of 100,000 Australian and New Zealand patients with severe sepsis showed that mortality rates between 2000 and 2012 decreased from 35% to a little more than 18%. Patients with severe sepsis were actually discharged in greater numbers when compared with other groups. Younger patients with severe sepsis without significant comorbidities had mortality rates less than 5%.³ Some fraction of this improvement in survival might be explained by administrative coding modifications or by exclusion of patients for whom ICU admission is potentially futile.^{4–7} However, over the last few decades it has become generally recognized that early antibiotics and timely resuscitation, optimally driven by

a resuscitation algorithm or protocol, have made a real difference.^{3,8,9}

In addition, several fundamental improvements in the practice of critical care have contributed. Here the authors review care in the period after the initial resuscitation to identify features that may also have contributed to improvement in sepsis and septic shock outcomes. In particular, the authors highlight post-acute phase management of agitation and delirium, mechanical ventilation, hemodynamic management, blood transfusion, nutrition, and briefly touch on immune function. The authors make the case that decreasing invasiveness when possible will have synergistic benefits for our patients.

The septic shock literature has a surprisingly low ratio of positive result^{10–13} versus negative result^{14–21} randomized clinical trials when improved survival is the end point. The relative paucity of clearly positive trials and management guidelines that sometimes make conflicting recommendations^{22,23} can make it challenging for clinicians. This point is particularly true for the management of patients after the first several hours of resuscitation. Here the authors attempt

Disclosure Statement: The authors have nothing to disclose.

Centre for Heart Lung Innovation, St. Paul's Hospital, University of British Columbia, 1081 Burrard Street, Vancouver, British Columbia V6Z 1Y6, Canada

* Corresponding author.

E-mail address: Keith.Walley@hli.ubc.ca

Clin Chest Med 37 (2016) 347–365

<http://dx.doi.org/10.1016/j.ccm.2016.01.006>

0272-5231/16/\$ – see front matter © 2016 Elsevier Inc. All rights reserved.

to strike a reasonable balance in the face of significant uncertainty.

AGITATION AND DELIRIUM

Patients frequently come to the ICU already suffering from pain and acute cognitive dysfunction.²⁴ Cognitive dysfunction is associated with increased overall mortality, and this increased mortality is frequently because of respiratory complications.²⁵ Although there is little disagreement as to the management end points of analgesia, sedation, and treatment of delirium (calm, comfortable, and cooperative patients treated so as to maximize short- and long-term psychological and overall outcomes^{23,26–28}), there is considerable variability in opinion as to how pain, agitation, and delirium (PAD) interact and how they should be managed.

Importance of Agitation and Delirium

Patients with agitation and delirium cannot participate fully in weaning and rehabilitation and are at increased risk of accidental self-injury.

Agitation and delirium are also frequent and costly causes of intubation.^{29,30} ICU procedures and the medications used to treat pain and agitation can themselves increase delirium and cause respiratory, musculoskeletal, cardiovascular, or digestive complications. PAD and its management interact with just about every aspect of clinical care^{28,31–40} (Fig. 1). Cognitive impairment following critical illness has long-term adverse consequences.^{41,42} Even mild sepsis is an independent risk factor for developing subsequent dementia.^{43,44} The length of the delirious episode correlates with long-term functional outcome and mortality.^{32,35,45,46} Delirium can be seen as a phenotype of acute brain failure, and its prevention is sometimes consider a marker of quality of care.⁴⁷ Our understanding of modalities to prevent and treat cognitive dysfunction is incomplete.^{28,47–52}

Treatment of Pain, Agitation, and Delirium

The Society of Critical Care Medicine’s (SCCM) 2013 published guidelines²² encourage caregivers to adopt a structured, holistic multidisciplinary

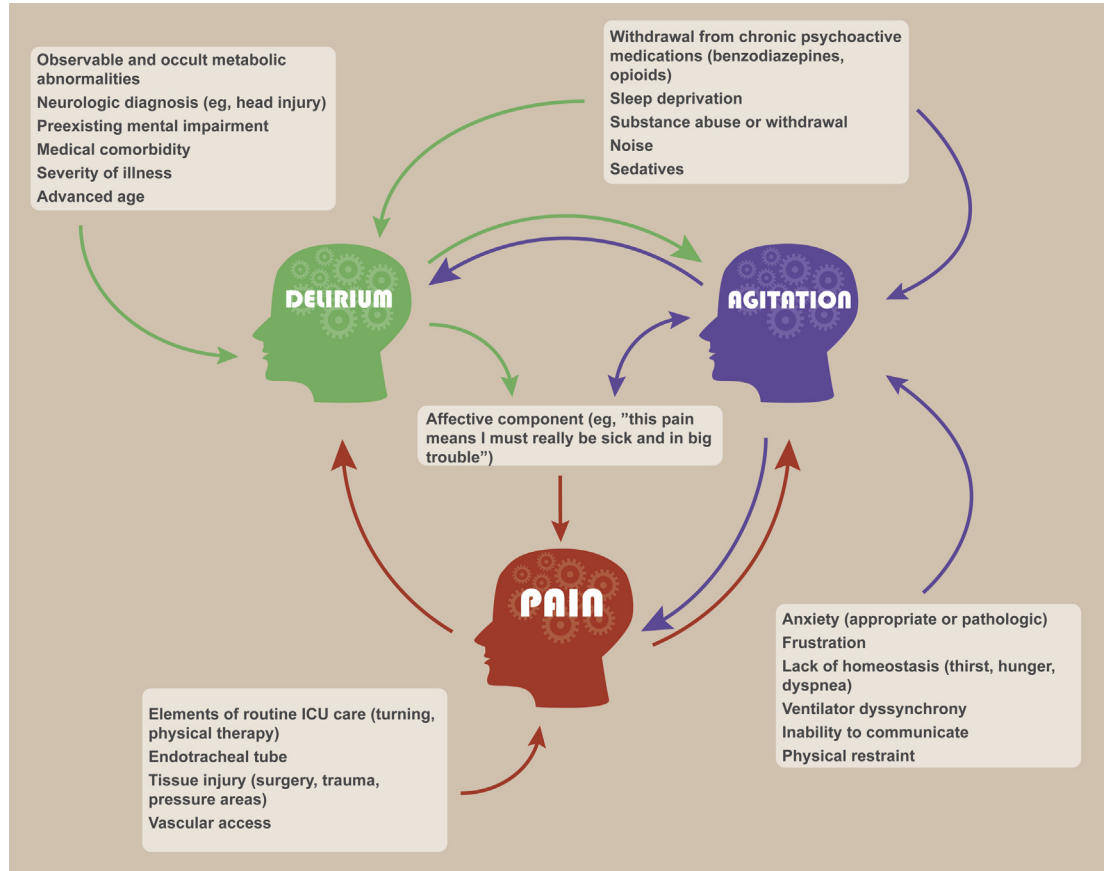


Fig. 1. Contributors to PAD and their interactions are illustrated.

Download English Version:

<https://daneshyari.com/en/article/4207049>

Download Persian Version:

<https://daneshyari.com/article/4207049>

[Daneshyari.com](https://daneshyari.com)