

Commentary

Expanding intensive care medicine beyond the intensive care unit

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Abstract

Intensive care medicine probably requires the artificial boundaries of an intensive care unit to nurture and legitimize the specialty. The next major step in intensive care medicine is to explore ways of optimizing the outcome of seriously ill patients by recognizing and resuscitating them at an earlier stage. Some of these ways include better education of existing staff; earlier consultation; and automatic calling by intensive care staff to abnormalities identifying at-risk patients. Some of these interventions are currently being evaluated and results should soon indicate their relative effectiveness.

Keywords critical care, intensive care, medical emergency team, outreach teams, seriously ill

Introduction

An article presented in this issue of *Critical Care* [1] provides an excellent review of the problem of dealing with seriously ill hospital patients when they are not in an intensive care environment. Many studies have now demonstrated that current care for hospital patients in general wards is inadequate [2–4]. If we as intensivists are to be involved in the care of the seriously ill outside the four walls of the intensive care unit (ICU), then how best do we reach out?

The problem

The article by Bright and coworkers [1] defines the problem of being seriously ill in the general wards of a hospital. Hospitals are called upon to manage increasing numbers of seriously ill patients as we perform more complex operations and keep people alive longer with various procedures and drugs [5]. The current hospital system does not manage at-risk patients well. There are many potentially avoidable deaths [3,4]. A high percentage of hospitalized patients who die unexpectedly [6], who suffer a cardiac arrest [7], or are admitted to an ICU [8] exhibit signs of serious deterioration in their vital signs before these events.

Who owns the problem?

Hospital medicine has traditionally been organized in hierarchical vertical silos. A team of junior doctors, together

with general ward nursing staff, offer 24 hour care, often under the direction of a single specialist who takes ultimate responsibility for the patient.

This system has worked well over the centuries. However, medicine has become more specialized and patients now have multiple problems, defying our attempts to categorize them into single organ diagnoses. For example, surgical patients are often old with multiple comorbidities; also, although medical patients may present with one problem (e.g. a stroke), they usually have other problems such as hypertension, diabetes, ischaemic heart disease and musculoskeletal disease as well. They are at-risk for serious deterioration while they are in hospital. The expertise, skills and experience required to care for patients when they become seriously ill is usually not possessed by the staff caring for general ward patients [2]. Even though a single organ specialist may possess these skills, they will soon be lost and become outdated unless they are actively practised. Apart from a cardiac arrest team, there is little in the way of a safety net for the seriously ill, operating horizontally across clinical teams and wards in a systematic manner.

How best to address the problem?

Clinical teams caring for a patient usually refer them for other specialist opinion when they have a problem that is outside

their own area of expertise. This system works well for a stable patient but not for a rapidly deteriorating patient, in whom delay may have serious consequences in terms of cellular damage or organ failure. The specialist responsible for the patient is not present 24 hours a day. Even if they were, they and the staff caring for the patient often do not recognize the seriously ill sufficiently early [2], and neither do they have insight into their own deficiencies in the practice of acute medicine. Furthermore, even if a specialist were able to recognize a seriously ill patient consistently, the usual referral system to a more appropriate specialist is too slow and cumbersome. Urgent and immediate resuscitation is required. The article by Bright and coworkers [1] offers several ways by which this can occur. The fact that intensivists are leading the way in many of these initiatives is not surprising. They realize the futility of expensive life support long after multiorgan failure has occurred. They are also familiar with the failure of strategies to deliver optimal or even supraoptimal care after admission to the ICU [9–11], as compared with the success of early resuscitation outside the ICU [12].

The article discusses many outreach options, including hospitalists, educational strategies, referral services and rapid response teams triggered by specific criteria such as abnormal vital signs [1].

The optimal way to provide outreach has yet to be determined. The first of the outreach strategies, namely the medical emergency team (MET) [13], is currently being evaluated in a multicentre cluster randomized study across Australia. The results should be available in early 2004. If the MET system were demonstrated to be ineffective in saving lives and preventing serious complications, then would we abandon all attempts to reach out from within our ICUs? The answer is obviously a resounding 'no'. The MET is simply the first hospital-wide system to attempt to optimize the care of the seriously ill before and after their admission to the ICU. If the MET is shown to be ineffective, then other preventive strategies will be developed and evaluated.

The pioneers of our specialty created an environment in which we could nurture our development. From within our ICUs we developed educational strategies for training specialists, consolidated the legitimacy of our specialty, and refined our knowledge and skills. Those pioneers would not have approved of us creating artificial boundaries around the continuum of care required for optimizing outcomes in the seriously ill. Now that we have secured our specialty within ICUs, the next major advance in intensive care medicine is to contribute to creating systems that either prevent admission to ICUs or optimize the outcome of those we manage in the ICU. As early as 1974 Peter Safar [14], one of those pioneers in intensive care, stated that, 'the most sophisticated intensive care often becomes unnecessarily expensive terminal care when the pre-ICU system fails.' Very

few intensive care specialists would seriously argue that we should stay within our ICUs and not intervene at the earliest possible time in serious illness. The question remains as to how we are to do this most effectively.

Competing interests

None declared.

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