A surgeon in the ICU: An Equal “Team-mate” or an “Intruder”?

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Abstract

Demand for critical care services is increasing. The role of surgeons in intensive care units (ICUs) provides specific insights and perspectives concerning the care of surgical patients, sometimes not fully appreciated by the non-surgical practitioners caring for these patients. The training and education of surgeons is becoming more complex, fragmented, and lengthy. The knowledge-based skills required to manage critically ill patients are also becoming more extensive. However, surgeons need to spend focused attention on how best to train and educate upcoming surgical trainees in regard to the principles of critical care medicine; educational programmes could be developed for better surgical education within the basic residency and surgical critical care programmes. The critically ill patient needs this focused attention as does the specialty of surgical critical care medicine.

Key words: ICU; intensivist; surgeon; critical care

Dear Editor,

Intensive Care Units (ICUs) have undergone impressive improvement and expansion over the last years. Evidence strongly supports that the presence of a specialized critical care team directed by an intensivist physician reduces patient mortality and morbidity [1,2]. High-quality care also requires the adoption of a 24/7 intensivist model and the appropriate training, credentialing, and dedication to critical care of all intensivists, regardless of their base specialty. In addition, as technology evolved to allow for development of increasingly intricate and sophisticated adjuncts to care, the importance of physician availability and continuity of care as key factors in improving patient outcomes has become recognised. Furthermore, guidelines and protocols have been established to ensure quality improvement. In this complex environment, general surgery needs to answer the question: “Should surgeons become involved in the care of critically ill patients?”

Initially, the development and organization of ICUs was headed by anaesthetists [2]. However, most ICU patients suffered from haemorrhagic or septic shock, acute renal failure, or acute respiratory distress syndrome. Given that general surgeons had the expertise to perform fluid resuscitation, blood transfusion, central venous and pulmonary artery catheter insertion, tracheostomy, chest tube insertion, and abscess drainage, they became more involved, both clinically

and administratively, in the intensive care of patients.

The advantages of surgical involvement in the ICUs include the following:

- i. surgical diseases are already known by the critical care surgeon;
- ii. basic surgical principles are similar among operating and critical care surgeons;
- iii. surgical critical care programmes can be developed for better education and
- iv. surgical patients benefit from a knowledgeable provider of critical care, while surgeons speaking to surgeons have a better chance of communicating because of their common backgrounds.

Due to the fact that surgeons have a breadth of background knowledge of all organ systems, they are well equipped to manage the patient. This wealth of experience allows the surgeon to assimilate radiologic and laboratory studies, physical examination findings, and a complicated patient course. Surgeons are comfortable reacting quickly, and develop these skills early on in their careers, often with limited available data. Modern intensive care involves invasive procedures, and surgeons develop many of the required techniques (thoracocentesis, diagnostic peritoneal lavage, tube thoracostomy, percutaneous tracheostomy, decompressive laparotomy, and compartment release of the lower extremity) [3].

The surgeon is the physician who has done his best to restore the functional anatomy and physiology of his patient; he is also the best qualified to guide the patient’s postoperative treatment. After the onset of postoperative critical illness, surgeons remain intimately involved in the decision-making process, in contrast to the limited role of many primary care providers in non-surgical critical illness [4]. Even when their patients are admitted into the ICU,

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surgeons maintain control of some of the most important therapeutic decisions.

Owing to the nature of their practices, surgical providers have different relationships with patients than medical staff. Many family members might still consider the surgeon to be the primary managing physician for the ICU patient. If a complication arises, the surgeon may feel obligated to pursue all treatments to improve the patient's condition; the surgeon may be more inclined than other types of physicians to pursue all interventions during a time of postoperative critical illness.

For surgeons interested in becoming intensivists, surgical societies should provide those who have completed critical care training and passed standardized examinations in critical care. The expectation is that they should gain the knowledge and skills necessary to manage critically ill patients [4,5]. All attempts must promote training in acute care surgery (the combination of trauma, surgical critical care, and emergency surgery) [5]. Trauma surgeons should be encouraged to actively take on elective and emergency surgery so as to optimally maintain their skills and experience in the operative management of patients. Hospitals and surgical departments should recognize that surgeons need to remain actively involved in the care of their patients in the ICU, regardless of the specialty of the intensivist. Surgeons should practice the intensivist model in terms of dedicating time to the ICU without other concurrent obligations. Surgical societies need to embrace a leadership role in promoting training and clinical practice in critical care and acute surgery.

Residents must gain a solid foundation of critical care knowledge and skills. Junior surgical residents must spend months on critical care rotations [5]. This training occurs during non-operative rotations with no responsibilities for patients outside the ICU. Surgical critical care rotations should include didactic sessions, bedside rounds, ethical issues, and presentations concerning critical care topics and aspects of surgical diseases in the ICU. Junior resident education must develop an understanding of the mecha-

nisms of shock, inflammation, and hypoxia. Additionally, they need to be thoroughly familiar with the various modes of ventilation, haemodynamic support and monitoring, nutritional support, and fluid/electrolyte management issues. They must be able to assess critically ill patients rapidly, develop management plans, and become familiar with invasive procedures. Senior residents need to have a more comprehensive understanding of critical illness and should understand current debates regarding the molecular and cellular alterations in critical illness as well as controversies surrounding management of critically ill patients [5]. Moreover, they need to receive additional training in the initial and perioperative management and evaluation of the injured patient and emergency surgery patients. They should also participate in the fields of neurosurgery, vascular, and cardiac surgery.

Conflict of interest

The authors declare that they have no conflict of interest.

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