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Opinion

Perioperative care is a hazardous business: Let's make it safer!



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Many studies in healthcare have repeatedly shown that adverse events are not only frequent but, for a significant percentage, are also related to errors that are in fact preventable [1]. As practitioners involved in surgical procedures and perioperative care of patients we all know to well that surgery is no exception and that in fact this is a “hazardous business”.

The first question that we should ask ourselves is what is the magnitude of risks our patients are exposed to? And the very next one might be how does inpatient surgery compare with other human activities or other industries in terms of risks? In fact we do have more and more precise data regarding surgical mortality and morbidity rates as well as their comparisons to other “domestic or industrial” risks. We do know for example that cardiac surgery in ASA 3–5 patients carries a similar level of mortality than extreme sports such as Himalaya mountain climbing. On the other hand anaesthesia, related mortality in ASA 1 patients for simple surgical procedures is considered as low as the mortality rate observed in railways, an industry considered as very safe or even ultra safe [2]. Obviously the severity of the surgery and the comorbidities of the patients are important factors, however they are by no means the only variables involved in the equation...

In 2011, the Trials groups of the European Society of Intensive Care Medicine and the European Society of Anaesthesiology conducted the European Surgical Outcomes Study (EuSOS) [3]. This landmark trial consisted of a 7-day observational cohort study of inpatient non-cardiac surgery. The aim was to assess in-hospital mortality as well as duration of hospital stay and admission to critical care. The study was conducted across 498 hospitals in 28 different European countries. The results showed an overall in-hospital mortality rate of 4% and a critical-care admission rate of 8%. Surprisingly, only 73% of the patients who died were admitted

to a critical care unit. Furthermore, important variations in mortality rates were observed between countries and these differences persisted even after adjusting for confounding variables. These findings suggest that factors other than surgery- and patient-related factors influence surgical mortality rates. The difference in mortality rates observed between countries may well be explained by national differences not only in terms of demographics, healthcare systems and socioeconomic resources, but also in terms of perioperative care pathways, access to critical care units, perioperative patient management, early identification of post-operative complications management and quality improvement initiatives [3].

Perioperative mortality is an important indicator when looking at patient safety and quality of care. However, taken in isolation, surgical mortality represents only the “tip of the iceberg” and may be of limited use for improving safety. In fact, perioperative death is in most instances the consequence of a cascade of events that follows one perioperative complication, which triggers a deadly spiral. Close attention must therefore be paid to surgical complications and its relationship with perioperative morbidity. In hospitals with a high mortality rate for a given surgical procedures one would expect to find a higher perioperative complications rate when compared to hospitals with a low mortality rate. However, studies have in fact demonstrated that this is not always the case. Hospitals with similar perioperative major complications rates may in fact have very different inpatient surgical mortality rates. How can we explain this apparent paradox? In fact the management of post-operative complications appears to be of particular importance and was recently emphasized by the concept of “failure to rescue”. This notion emerged in perioperative care to explain observed differences in surgical mortality rates between hospitals with similar rates of major complication [4,5]. This concept suggests that some hospitals have perioperative care and teams that are better at “identifying” and “rescuing” perioperative complications compared to other hospitals where perioperative care are “less good” hence leading to a higher mortality following complications. Contrary to the EuSOS study, such differences have been observed across hospitals located in the same country.

Some patients are more prone than others to suffer from the dreadful consequences of perioperative complications. In this regards, elderly patients undergoing surgery are particularly exposed since the vast majority of perioperative deaths occur in

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patients over 65 year-old [6]. When compared to younger patients, the elderly patients have a higher risk of perioperative complications. In addition, death in this population appears to be more often than not due to a “failure to rescue” problem [7]. Emerging evidence starts to appear in order to explain the observed differences in the “failure to rescue” rates across institutions. Part of it may be explained by macro-system factors such as nurse staffing, technological resources and teaching status. But micro-system factors such as teamwork, communication and safety culture are clearly involved and interventions targeting these important elements are currently been developed in order to improve perioperative care of patients and decrease adverse events [6,8].

After this brief overview of surgical mortality and morbidity one can only conclude that not only perioperative patients harm is frequent but also that in many cases it could in fact be prevented. Plans to improve the quality of perioperative care are therefore acutely needed, as is their efficient integration in daily practice. For healthcare providers involved in perioperative medicine, it is therefore of critical importance to look at strategies that could be implemented in order to improve the prevention, the early recognition and the management of postoperative complications.

In this issue of the journal, Johannes Wacker and Michaela Kolbe explore two major quality improvement initiatives that have been proposed in healthcare: “reporting of adverse events” and “informal team communication”. They built the case of these two concepts and emphasize how, when properly used, they could help us to learn from perioperative patient harm and subsequently help us to decrease the rate of surgical adverse events. The authors also explore some of the barriers that prevent these strategies to be fully embraced in the working environment and suggest some interventions in order to overcome these barriers. Finally, they critically discuss the evidence in terms of “efficacy” and “effectiveness”

of these measures and point out several knowledge gaps that may guide future research in the field.

We all know that perioperative care is a “hazardous business”, however, as practitioners who are involved daily in surgical and procedural care it is our duty to strive to make it safer! Therefore any reader concerned by the continuous improvement of perioperative patient care and patient safety will read with great interest this review article on this important topic.

Conflict of interest

I have no conflict of interests regarding this editorial commentary.

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