Leading article

Role of the anaesthetist in postoperative care

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Over the past few decades the role of the anaesthetist has grown from traditional, operating theatre-based anaesthesia care to being part of perioperative medical care teams, involving various medical specialties. The aim of perioperative care is to provide optimal surgical conditions in the operating theatre and perioperative support, with the aim of reducing metabolic stress and lowering the incidence of organ-related complications. In recent years, the specialty of anaesthesia has built a quality and safety performance record mainly in the preoperative and intraoperative phases[1]. Anaesthesia-related mortality is less than one per 100 000 anaesthetics, despite an increase in the complexity of surgery and patient co-morbidity. Anaesthetists are increasingly involved in postoperative pain management and the treatment of acute complications in the immediate, but also later postoperative phases. During past years, it turns out that, besides complications of surgery, the consequences of prolonged hospital stay (infectious complications) and pre-existing co-morbidity substantially influence the overall outcome of surgery, and may also reduce quality of life even after successful surgery. In contrast to the low intraoperative and early postoperative event rates, 30-day mortality and morbidity have remained relatively unchanged over the past few years, suggesting that optimization of care mainly in the postoperative phase may be beneficial. Logically, there is increased interest in how to reduce postoperative mortality. The role of anaesthetists as part of the postoperative care team is evident, driven by their competence in diagnosing and treating acute changes in organ function. Given the shortage of ICU beds, there is a need for acute treatment on the surgical ward and in dedicated postanaesthesia care units (PACUs)/surgical medium-care facilities. Moreover, there is increasing evidence that optimized surgery and anaesthesia, combined with standard care pathways (early recovery after surgery), result in reduced duration of stay, a decreased incidence of complications and improved quality of recovery. At present, anaesthesia care is also increasingly provided for invasive non-surgical interventions outside of the operating department, targeting the same quality and safety standards as in the operating theatre. Postinterventional care pathways need to be developed and refined.

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Classically, high-risk patients in hospitals are treated after surgery either in the ICU or in the recovery area, followed by a stay in the normal ward. PACUs are capable of delivering care to high-risk patients for 24–48 h after complex surgery, and reduce the need for postoperative care in the ICU. Recently, the International Surgical Outcomes Study[2] could not identify a survival benefit from ICU over PACU care followed by standard care in the ward. Therefore, anaesthetists and surgeons together take care of high-risk patients in the early postoperative phase. Patients who are not suitable for the normal ward are increasingly treated in a medium-care environment, which is often facilitated by a combination of intensive care physicians, surgeons and anaesthetists.

Three decades ago, an acute pain service (APS) was introduced under the supervision of anaesthetists. The implementation of an APS significantly improved pain treatment, decreased analgesia-related adverse effects, and improved patient satisfaction and quality of life[3]. Today, an APS is very common and is considered to be a quality indicator of multidisciplinary acute pain care. Moreover, optimized pain treatment enables early mobilization, a prerequisite of early recovery. Thus, the classical role of the anaesthetist being in charge only during the intraoperative and early postoperative phases, and the surgeon being responsible for general medical treatment before and afterwards, is evolving into a continuum of care throughout the whole perioperative phase. The perioperative care team now consists of several medical specialists including geriatric physicians, anaesthetists and surgeons. In addition, the role of paramedic groups such as physiotherapists is much more prominent.

New developments in postoperative care

Perioperative mortality related to delayed diagnosis, and treatment of surgical and non-surgical complications is referred to as failure to rescue

(FTR). The majority of studies report an overall FTR rate of between 2 and 17 per cent[4]. In FTR, delayed escalation of care occurred in 20.7–47.7 per cent and was usually caused by failure to identify deterioration in patients' organ function or failures in communication between clinicians[4]. Approximately 7 per cent of surgical patients develop at least one postoperative complication. These complications increase duration of hospital stay and significantly increase hospital cost up to almost fivefold; larger numbers of complications or their increased severity are the main driver[5]. The impact of immediate perioperative complications on mortality is measurable even at 10 years after surgery, suggesting that attempts to diagnose and treat complications are beneficial[6]. Postoperative complications after major surgery can be subdivided into major categories: infectious (respiratory failure, pneumonia), cardiovascular (myocardial infarction, thromboembolic events), renal failure and surgical (haemorrhage, surgical-site infection, anastomotic leak) complications are the major subgroups, with non-surgical events forming the majority[7]. These complications typically occur on day 3–5 after surgery, when patients are on the normal ward and not in a high-care environment. The average time from development of specific complications until death is 1.5–8.6 days[8]. Increased patient monitoring (such as pulse oximetry) can reduce the rate of FTR only if embedded in a standard treatment algorithm performed by a dedicated team[9]. There is an increasing interest in remote monitoring on the ward and anaesthetists are trained to identify patients at risk and to be part of such a team supporting the normal ward. The National Quality Forum and the Agency for Healthcare Research and Quality have endorsed FTR as a quality measure for surgical care. Potentially preventable FTR is extremely costly and results in inappropriate use of scarce facilities like ICU. There has been rapid progress allowing continuous monitoring of vital parameters via new affordable technology, which creates a need for caregivers able to use this information in the perioperative setting.

Delivering high-value care demands reliable hospital systems, a healthy safety culture, and a continuum of care with readily available care pathways and treatment protocols[4,6,8,9]. Anaesthetists have broad clinical expertise, and are trained to detect signs of organ function deterioration, to monitor and interpret changes, and to manage complications directly. Moreover, anaesthetists are familiar with working in multidisciplinary care teams. Therefore, a prominent role for the anaesthetist in postoperative care seems advisable, and the multidisciplinary teamwork in the operating theatre and early postoperative phase should be continued further.

From an organization-wide perspective, it can be hypothesized that surgical anaesthesia collaboration in postoperative care would benefit hospitals by containing costs, better performance on quality indicators and greater patient satisfaction.

The future: collaboration between surgeons and anaesthetists

Development in medical skills and the ageing population with multiple comorbidities has led to a steady increase in high-risk patients undergoing more complex surgical procedures. Recent studies such as TRACE (Routine posTsuRgical Anesthesia visit to improve patient outComE)[10] are examples of initiatives to implement routine postoperative monitoring and anaesthesia visits, with the aim of optimizing organ protection and preventing complications. Similar initiatives to enhance the benefits of such collaborations should be studied. The role of advanced monitoring capabilities on patient outcome merits further investigation. The concept of technological developments, increasing complexity of surgery and the changing face of healthcare is demanding. Surgeons and anaesthetists have complementary qualities that can be merged to make a significant difference in what seems to be the most delicate stage of perioperative care, the postoperative phase.

Disclosure

The authors declare no other conflict of interest.

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