High-risk surgery: the courage to fail

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Introduction

Not so long ago, cardiothoracic surgeons were often called to see patients late in the natural history of their disease and asked to consider higher-risk operations. Most surgeons of an earlier era, when routine cases often carried a greater than 5% mortality, were willing to do this. The growth of intense institutional and public scrutiny of 30-day mortality has brought this era to an end. This is despite cardiac and thoracic surgery becoming much safer due to many factors. Diagnosis is now more accurate; anaesthesia and perioperative care have improved greatly. Techniques of anastomosis in the commonest operation, coronary artery bypass, have hardly changed in the last 30 years but other components such as myocardial protection and intraoperative imaging with echocardiography have improved markedly. In thoracic surgery, intensive preoperative optimisation of borderline patients, accelerated recovery pathways, standardisation and minimally invasive techniques are improving outcomes.

In a setting of spotlight, sensationalism and social media some surgeons are less willing to take on higher-risk patients. The modern era of transparency, team-working and increasing involvement of well-informed patients are bringing about a major change of attitude and approach. The traditional model of individual mastery gained by many years of individual honing of surgical techniques together with sometime ‘assumed authority’ and autonomy has given way to a new style which encompasses integrity, compassion, altruism, continuous improvement, team-working and partnership with the patient. Of course, there is overlap between these two styles of professionalism but there has been a significant change in emphasis. Simultaneously, the environment has moved towards one of zero tolerance of poorer outcomes even when not due to mistakes.

We have moved from paternalism to partnership. In the words of a former head of the General Medical Council (GMC), Sir Donald Irvine, ‘there has been a growth of awareness that medicine cannot be practised solely on the doctor’s ground’. Patients want to hear clear ‘jargon-free’ language, to be heard and to be central.

Towards a solution

This represents a considerable challenge but also a great opportunity. We are beginning to exploit this opportunity but there is still much to do. We are getting rid of the unhelpful parts of a club culture. In cardiac surgery, we are forging the heart team with our colleagues in cardiology, radiology, palliative care and many other disciplines. Multi-disciplinary team meetings are an accepted routine in cancer specialities and in congenital cardiology but they are relatively new in adult surgical and medical cardiology. Such meetings need to be open, regular, disciplined and attended by consultants for their duration. Careful chairmanship is required and documentation has to be meticulous. These meetings can and should be a great educational experience for all provided that a learning environment is encouraged.

Resources are needed for multi-disciplinary team meetings, which if they improve outcomes will rapidly be cost-effective, but can be difficult to find in the current period of austerity. Nevertheless, we must persist to improve this method of clinical decision-making, honing our approach to match the challenges.

It is in all our interests, but especially that of the patient, to avoid complications. Complications are distressing, can be fatal and very expensive. Are they the best way to distinguish between different units? Not if they are viewed simply. Atul Gawande3 recently explained how even though all units have complications the factor that distinguished the best units is their ability to rescue the patient from failure. They do not fail less but they do rescue more. This concept of ‘rescue from failure’ applies very well to cardiothoracic surgery.4 Surgeons are humble enough to realise that even if an operation apparently went well there might be later problems. Hospitals
must have resources, people and pathways to rescue success from failure. We all, including management and policy-makers need to make this central to the business of running healthcare.

This does not mean that we try less hard to avoid complications, but we have to be more accepting that in some situations it happens more often. While we strive to reduce these complications we should not use this as a reason to refuse to operate and so improve our audit data. It is a fine balance but one that needs to be scrutinised to ensure that our patients are given a fair chance. It is a truism to state that those patients at highest risk of mortality or other complications may have the most to gain from an appropriate operation, skilfully performed and properly resourced.

Defining outcome

Outcome measures have become an essential end-point in the assessment of surgeons and units from the medical, patient and economic viewpoint. The use of hospital stay as the main measure of efficacy is erroneous even though it is easy to measure. Mortality at 30 days was created when postoperative care was less effective compared to now and when most patients destined to die would do so within that interval. Studies of the risk of death after an operation tend to show a curve that starts high and gradually diminishes until it reaches a plateau. Later the mortality rate rises due to factors less related to the intervention. An option would be to measure the end of the risk related to the treatment as when the curve shows the lowest plateau. For death after coronary artery surgery it is two to three months, for stroke 10 days and for perioperative myocardial infarction, five days. After transcutaneous valve implantation it is about six months and for many congenital cardiac procedures it is one year. If the observation period is too short for the particular pathology being studied then a significant number of events will be missed and the wrong conclusions drawn. A reasonable compromise that engulfs most early risks after cardiac surgery or transcutaneous interventions could be a one-year interval. In thoracic surgery there is a move to measure both resection rate and survival of such patients as performance measures, and to do so at a level of both surgeon and the wider MDT. Perhaps patient-reported outcome measures will become the most important measure.

The Society for Cardiothoracic Surgery in Great Britain and Ireland has made great efforts to build comprehensive cardiac and thoracic surgery databases, and is arguably ahead of some other surgical specialities and many other countries.5 Unfortunately, their work is frustrated by incomplete or inaccurate datasets. Why is this? Insufficient resources to collect accurate complete data, asking for too much data or reluctance of clinicians? From time to time there is also the suspicion or even evidence of ‘gaming the system’. Databases require timely submission of data including events affecting renal, respiratory, neurological, haematological systems and wound healing. This also needs to include patient involvement, as early discharge from the surgical unit to another facility or home makes it difficult to track problems that occur late. Furthermore, this information all needs to be validated in order to be useful.

Conclusion

As we move towards a new kind of medical practice which is transparent, more candid and involves greater patient involvement, we need to better address the issues of why we measure, what we measure and how we explain. With the resources to collect them easily, accurate relevant data well explained to patients are essential.

Treatment needs to be seen by patients and society in the context of how an intervention improves the long-term outcome over what it might have been otherwise. Equally, it needs to be understood what the short-term procedure-related risk might be. With such information we can better guide patients on what their proportionate outcome might be with or without treatment. We can then inform them with candour and in partnership.

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References


