Standardisation and outcomes audit: a step forward in surgical oncology

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Looking back in time, we appreciate how efforts in basic, translational and clinical research have allowed us to arrive at sophisticated treatment modalities for cancer and results that could not be imagined some decades ago. Along the timeline of cancer management evolution, where profound changes in drug therapy and radiation technology have occurred, surgery has remained –and remains today– the key component of cancer treatment for solid malignancies. The classic aphorism “no surgery, no cure” is still fully valid in the majority of cases. Moreover, it is well known that flaws in the primary surgical resection of a malignant tumour imprint a negative impact on disease-specific survival that cannot be overcome by complementary cancer therapy delivered at a later time. The surgeon has been identified as a significant prognostic factor in malignant disease [1], and the crucial responsibility of surgeons in the ultimate outcome of their cancer patients cannot be overemphasised.

However, it is well known that variations in surgical practice and outcomes occur between countries and within different regions of a given country [2]. Acknowledging these variations in such a central component of cancer treatment may leave us with a legitimate concern on how adequate the treatment of patients at a certain point of care may be. Surgical practice is determined by the available scientific basis and the needs and resources of individuals and the communities they live in. The lack of consensus about how a health problem should be addressed leaves medical practice dependent on available resources or on a provider’s opinion. Standardisation based on a solid scientific foundation is necessary to ensure that every patient gets the best treatment option regardless of geographical, socioeconomic or institutional variations. In this regard, scientific societies

have a responsibility to facilitate discussion of the latest available scientific evidence and pursue its translation into consensus statements and treatment guidelines.

A success story in standardisation of cancer surgery is represented by the advent of total mesorectal excision for rectal cancer, pioneered by Heald [3]. A change in surgical practice occurred given the low local recurrence rates associated with the procedure, and nobody would question that this is currently the standard of care in rectal cancer surgery [4]. Interestingly, this change occurred without the need of a randomised trial. On the other hand, the standard for lymph node dissection in gastric cancer surgery was sought for in two European randomised trials [5, 6]. Both showed no difference between D1 and D2 dissections, but the gastric cancer community keep leaning towards the Japanese standard, the D2 dissection. These two facts and a careful review of the history of surgical oncology give us a critical hint as to how clinical trials, although necessary, are not the only determinants of surgical standards.

Standardisation in cancer surgery should not be only about surgical technique but also about surgical indications and the framing and timing of surgical treatment within the context of a multidisciplinary approach. A patient with a technically resectable tumour does not necessarily need up-front surgery, even if this procedure will meet the strictest surgical standards, and might be better served by excision after the application of neoadjuvant therapy. It is in this context that the concept of surgical oncology as a discipline (that goes beyond the strictly technical concept of oncological surgery) acquires its full meaning. Therefore, multidisciplinary interaction before making definitive surgical treatment decisions should become an honoured standard in cancer surgery.

Only through standardisation can we ensure homogeneous surgical outcomes and homogeneous cancer care. Standard indications and standard procedures render standard results. Although standardisation certainly has an impact on outcomes, outcomes are also influenced by several other factors, such as a surgeon’s experience or hospital volume [7]. Health authorities should lead an effort to improve cancer surgery results by implementing the centralisation of complex procedures in accredited institutions

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[8] and establishing an effective audit system on surgical outcomes, as already is the case in some European countries. Knowing our own results and having them critically reviewed by an external observer, unusual in our environment, would further contribute to excellence in cancer care and to quenching its variations. The first step in this process would be the definition of surgical outcomes for each surgical procedure (pathological features of the specimen, surgical morbidity and mortality, disease-free survival, local relapse rate, etc) and implementation and maintenance of an ad hoc centralised database, which should be a re-

sponsibility of the healthcare administration. Well aware of its importance, the European Society of Surgical Oncology is developing a quality assurance initiative.

In conclusion, standardisation in the surgical treatment of cancer is desirable and possible. Key factors in its implementation are surgeons' awareness of its necessity, the work of scientific societies to arrive at scientific consensus and practice guidelines, and the desire of healthcare authorities to develop effective cancer surgical outcome information systems and audit measures in recognition of the key role of surgery in the management of cancer.

References

1. Di Cataldo A, Scilletta B, Latino R (2007) The surgeon as a prognostic factor in the surgical treatment of rectal cancer. *Surg Oncol* 16 (Suppl 1):S53–S56
2. Reid-Lombardo KM, Gay G, Patel-Parekh L et al and the Gastric Patient Care Evaluation Group from the Commission on Cancer (2007) Treatment of gastric adenocarcinoma may differ among hospital types in the United States – a report from the National Cancer Data Base. *J Gastrointest Surg* 11:410–420
3. Heald RJ (1998) Total mesorectal excision. The new European gold standard. *G Chir* 19:253–255
4. Wibe A, Møller B, Norstein J et al for the Norwegian Rectal Cancer Group (2002) A national strategic change in treatment policy for rectal cancer – implementation of total mesorectal excision as routine treatment in Norway. A national audit. *Dis Colon Rectum* 45:857–866
5. Hartgrink HH, van de Velde CJ, Putter H et al (2004) Extended lymph node dissection for gastric cancer: who may benefit? Final results of the randomized Dutch gastric cancer group trial. *J Clin Oncol* 22:2069–2077
6. Cuschieri A, Weeden S, Fielding J et al (1999) Patient survival after D1 and D2 resections for gastric cancer: long-term results of the MRC randomized surgical trial. Surgical Co-operative Group. *Br J Cancer* 79:1522–1530
7. Birkmeyer JD, Sun Y, Wong SL, Stukel TA (2007) Hospital volume and late survival after cancer surgery. *Ann Surg* 245:777–783
8. Wouters MW, Karim-Kos HE, le Cessie S et al (2009) Centralization of esophageal cancer surgery: does it improve clinical outcome? *Ann Surg Oncol* 16:1789–1798