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EDITORIAL

Complete Mesocolic Excision—A Marker of Surgical Quality?

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Quality assurance in surgery has never been more important. As public awareness and lay access to educational resources increase, the onus is on the surgical community to provide a consistently excellent standard of care. Nowhere is this more evident than the field of oncology. The establishment of the multidisciplinary care model ensures that patients are afforded timely and appropriate specialist referral,[1] and an international vogue towards a patient-led service is evident in recent years.[2] While involvement of chemo- and radiation-oncologists undoubtedly improves disease-free survival, there is an increasing body of evidence pointing to the primacy of surgical technique.[3] Natural evolution of practice produced enhanced results,[4] but a more active approach to establishment of guidelines and implementation of strict protocols has been adopted.[5] The concept of variation in outcome dependent upon the individual surgeon performing the operation is not new[6] but certainly adds weight to the argument for subspecialization in the light of the ongoing volume-outcome debate.[7]

Heald was first to describe total mesorectal excision,[8] and while the technique may not have been entirely original, there is no doubt but that it has revolutionized the worldwide management of rectal cancer.[9] It involves the formal resection of an intact tumor specimen with its full lymphatic drainage and blood supply within a predefined operative plane. However, until now, it has been difficult to attribute improvement in patient outcome specifically to technique alone, and the contribution of a concurrent global enhancement of rectal cancer care cannot be discounted. A recent study, however, succeeded in isolating adequate plane in rectal cancer surgery as an independent prognostic factor (irrespective of (neo)-adjuvant radiotherapy) and found it to be more important than resection margins, thus challenging traditional dogma.[10] Short-course pre-operative radiotherapy combined with adequate plane surgery almost abolished recurrence at 3 years, thus allowing the consideration of rectal cancer as a curable entity. The authors describe a progressive improvement in technique (and thus outcome) over the study period and suggest that the process of executing the trial alone may have contributed to this. With modification of technique and standardization of adjuvant therapies, rectal cancer now demonstrates an equivalent, if not better, disease-free survival to stage-equivalent colon cancer[11] (whose management, until now, has been poorly standardized).

The relatively new concept of complete mesocolic excision in the management of colon cancer represents far more than evolution in operative technique. It attempts to extrapolate the advances in rectal cancer management and translate the vast survival advantage to colon cancer. This reflects the vogue towards quality assurance[12] and international standardization of cancer care. While many guidelines govern the diagnosis of colon cancer,[13] far fewer attempt to legislate for specifics of operative technique. Many surrogate markers for excellence in cancer management have been adopted. Number of lymph nodes resected has been endorsed to benchmark operative quality[14] at certain disease stages[15] (with 12 considered adequate),[16]

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and specialist trained surgeons are more likely to deliver this standard.[17] The impact of hospital volume on outcome following surgery for colon cancer[18] is less certain than the convincing evidence pertaining to solid organ tumors,[19] but the importance of the individual surgeon's demonstration of technical credentials has been consistently highlighted.[20] Formal feedback from pathologists to surgeons regarding resection margins and planes of dissection is becoming the norm,[21] and quality of histopathological reports has been improved by introduction of a standardized pro-forma.[22] Clinical audit is well established as a professional requirement,[23] and anonymous reporting in many jurisdictions allows for open and transparent analysis of outcomes.[24] There is widespread awareness of the importance of opportunistic screening (colonoscopy[25] or CT colonography[26]) resulting in diagnosis at far earlier disease stage.[27]

Although the idea of complete mesocolic excision is still embryonic, early results are encouraging. Only evidence from retrospective trials is available to date, but the potential survival advantage resulting from careful intact specimen dissection is undeniable.[28] If nothing else, discrepancies in current practice have been highlighted, and the surgical community has been made aware that the time is ripe for formal standardization of operative practice. A recent study attributed improved cancer-free survival, reduced loco-regional recurrence, increased lymph node harvest, and decreased morbidity to the formal introduction of a clearly described operative technique for colonic resection.[29] This involved separation of mesocolic and parietal planes and true central ligation of supplying arteries and draining vessels at their roots. While this could be considered nothing more than good oncological surgical practice, its widespread introduction as standard of care would undoubtedly translate to improved cancer-specific survival. Pathologists are in an ideal position to police the maintenance of high quality dissection, and their move toward subspecialization will certainly aid the optimization of the quality assurance process for colon cancer.[30] Open communication and appraisal of technique in the forum of a regular multidisciplinary meeting provides an invaluable feedback opportunity for surgeons striving to optimize patient care.

Complete mesocolic excision is the latest addition to a plethora of surrogate markers for high quality care in operative management of colon cancer. Specifics of the technique are most likely less important than the generalized concept. It may, in fact, be its accompaniments (in the form of surgeon cognizance of anatomical planes, careful pathological evaluation, multidisciplinary communication) that afford survival benefit. However, it allows specific instructions to be issued to international surgeons involved in the operative management of colon cancer and, undoubtedly, has a valuable role to play in the overdue implementation of a quality assurance strategy in the management of colon cancer.

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