

Management of Colorectal Cancer – Can We Do Better?

Yunus A Gul

Department of Surgery, Faculty of Medicine and Health Sciences, University Putra Malaysia, Serdang, 43400 Selangor

Colorectal cancer cases in Malaysia have steadily risen over the years with incidence rates mimicking our Western counterparts in certain race groups as reported in the National Cancer Registry¹. It is now the commonest male cancer and the third commonest female cancer, of which a significant proportion is accounted for by rectal cancer. The current statistics provide ample evidence of a condition that constitutes a major healthcare concern in this country.

Colorectal cancer is curable if detected at an early stage and there have been a number of new trends in the management of colorectal cancer which have enabled us to take greater strides in improving patient outcome including those with advanced disease. Major considerations that should be given in improving the outcome of patients with colorectal cancer include the introduction of screening, forming a colorectal cancer registry, establishing specialized surgical care with multidisciplinary involvement of other relevant specialties, performing skilled surgery with a focus on minimally invasive techniques and maintaining a highly competitive subspecialty training program in colorectal surgery.

High-quality evidence has proved that colorectal screening saves lives^{2,3} and falls well within accepted cost-effectiveness parameters⁴. A concerted effort to combat this disease must begin with the adoption of colorectal screening as a national health priority. An ideal screening protocol with patient involvement is essential considering the various methods, both invasive and non-invasive, that is currently available. Patient education especially through informing them of the risks of colorectal cancer will likely prompt them to request screening even though physicians have a key role in recommending the procedure. Until there is an active national screening program, individual physicians must take the lead and responsibility in ensuring that patients are guided and advised accordingly. This task can and should be performed with the assistance of a number of several relevant professional societies that exist and we are fortunate in that we face no such shortage from a local context.

A colorectal cancer registry provides a comprehensive infrastructure for facilitating interdisciplinary studies in the epidemiology of colorectal cancer especially from a genetic perspective. Elucidating the aetiology of colorectal cancer and developing effective means of prevention and mortality reduction are other benefits of maintaining a registry and the data collected should include extensive epidemiological data, blood specimens and diagnostic tumor tissue. Part of the goal should be to investigate the contributions of genetic and environmental factors, both interactive and independent, to colon and rectal cancer incidence. This would also help

elucidate the reason for development of colorectal cancer in young patients in this country. The register will be a useful resource for the provision of objective data and planning of future studies apart from providing an avenue for international collaboration and research in colorectal cancer. Even though there have been plans to set up a National colorectal cancer registry, this is still in its infancy and a concerted effort is required from all those involved, both from the private and public sector, to ensure that meaningful data is obtained.

Colorectal surgery is yet to be recognised as a subspecialty entity in this country and this is indeed perilous when one considers the trends in global medical subspecialisation, improved outcomes achieved with specialist care and the impact of colorectal cancer as a healthcare burden. From a surgical perspective, there is a clear demarcation in managing colon and rectal cancer as the only proven curative treatment for rectal cancer at present is surgical excision. The major objectives in managing a patient with rectal cancer include local control with long-term survival, preservation of anal sphincter, bladder and sexual function and maintaining quality of life. The majority of these objectives are met by a well-informed decision making process and a painstaking skilled surgical dissection, which is the one variable over which we have control.

The following factors should be given due consideration when performing surgery for rectal cancer namely: total mesorectal excision (TME); autonomic nerve preservation; circumferential resection margin (CRM); distal resection margin; sphincter preservation; laparoscopic approaches and postoperative quality of life. Total mesorectal excision is a technique which requires precise and when performed properly, an intact mesorectum containing the draining lymph nodes of the rectum is obtained whilst facilitating pelvic autonomic nerve preservation. The aim is to obtain a negative CRM and negative distal margins. Local failure rates as low as 3% and overall 5-year survival of up to 80%⁵⁻⁶ have been obtained comparing favorably with results of standard surgery reporting local recurrence rates of 15% to 19% and as high as 48%⁷. The importance of the CRM in minimizing local recurrence of rectal cancer was first reported in 1986. Obtaining a negative CRM is likely to result in decreased rates of local recurrence, distant metastases, and death. In order to provide an optimal oncologic outcome, the surgeon must make all efforts to obtain a negative CRM, including en bloc resection of contiguous structures. Patients with impaired anorectal function may be better treated with radical resection and permanent colostomy, thus avoiding substantial postoperative perineal morbidity. Hence, it is

*Corresponding Author: Yunus A Gul, Department of Surgery, Faculty of Medicine and Health Sciences, University Putra Malaysia, Serdang, 43400 Selangor
Email: yunus@medic.upm.edu.my*

imperative that the surgeon exercise sound clinical judgment when selecting patients for restorative rectal resection. While it may be difficult to argue that certified colorectal surgeons operate with fewer complications than experienced general surgeons, specialty surgeons may be more effective at implementing protocols and clinical pathways that increases the safety of colon cancer surgery. However, local recurrence and long term survival rates are important parameters to consider when one takes into account the numerous treatment pathways available in managing patients with rectal cancer especially in terms of utilizing neoadjuvant therapy⁸. This takes into consideration the management issues at hand, which require the specific goals mentioned above to be managed through a multi-modality approach and delivered by a multi-disciplinary team where the surgeon plays a crucial role. While general surgeons can continue to manage colonic cancer, there should a clear boundary in the management of rectal cancer between colorectal and general surgeons. The performance of a precise dissection and decision making process requires experience and technical expertise, which if lacking, leads to detrimental results at the expense of the patient.

Laparoscopic colorectal resections (LC) for colon carcinoma benefits patients when it is performed by experienced surgeons. It is associated with similar morbidity and faster postoperative recovery when compared with open surgery (OS). Early concerns regarding the oncological effectiveness of laparoscopic colonic resection have been addressed by numerous studies and especially by the multicenter prospective randomized COST trial⁹. Reported quality of life benefits seem to be clinically modest and might require a refinement of our measuring tools to detect meaningful differences as well as a more careful patient selection to reduce conversion rates. Although there is already increasing evidence that LC is economically advantageous when compared with OC, evolutions in laparoscopic instrumentation might further reduce intraoperative costs. As LC becomes part of the standard training for colon and rectal surgeons, the issue of widespread credentialing for LC remains essential for surgeons who were not exposed to LC as part of their training. Several studies have reported advantages of laparoscopic rectal cancer resection over open surgery such as a reduction in pain, more rapid recovery of bowel function, shorter hospital stay and better cosmetic results¹⁰. Nevertheless, the effectiveness and safety of this new procedure has been the subject of debate, and its use is still not widespread. We have embarked upon this procedure successfully over the last three years with low morbidity and no mortality and are hopeful that our experience will help spur other units in this country to follow suit in performing laparoscopic colorectal surgery¹¹. Data from a recent systematic review confirms that laparoscopic-assisted TME is feasible when performed by experienced surgeons¹². Oncologic outcome does not appear to be impaired by laparoscopic rectal cancer resection and in addition, short-term morbidity may be reduced in the laparoscopic group.

Further prospective randomized trials focusing on laparoscopic resection of rectal cancer will serve to help definitive recommendations to be made concerning the efficacy of this procedure as specific skills are necessary when embarking upon this minimally invasive approach. Additional skills and dexterity are required when performing laparoscopic colorectal surgery which I believe will supersede open surgery in the future.

Newer chemotherapeutic agents with the emergence of targeted therapy, discovery of new molecular markers and genetic pathways have shown promise in our battle with colorectal cancer. The ultimate future goal in managing a patient with colorectal cancer is to be able to individualize a patient's treatment based upon a number of factors which includes defining the anatomical location of the tumour, expression of molecular markers, utilisation of genetic signatures using gene arrays and response to systemic therapy preoperatively together with optimizing multidisciplinary neoadjuvant therapy for those with rectal cancers. Results of colorectal cancer surgery should be audited and referral to specialist centers should be the norm for patients with rectal cancer with multidisciplinary care instituted from the outset. Surgeons must acknowledge their limitations and improve their skills if substandard oncological results are obtained. Until this is achieved, we will not be able to reach the high standards that are required in the management of colorectal cancer.

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