

Published Evidence about the Oncologic Outcome and Quality of Laparoscopic Anterior Resection with TME

Bretagnol *et al* reported a prospective series of 144 laparoscopic TME's with low colorectal or coloanal anastomosis for mid and low rectal cancers of stage T3N1 or less.¹ Their conversion rate was 14%. Clear distal and circumferential margins were achieved in 98% and 94% respectively. Two patients developed local recurrence and the 3-year overall and disease free survival rate were 90 and 77% respectively.

The conventional versus laparoscopic assisted surgery in colorectal cancer (CLASSICC) trial offers substantial evidence on laparoscopic resection for rectal cancer.^{2,3}

A recent systemic review and meta-analysis comparing short and medium term outcomes of over 1,400 laparoscopic versus 1,755 open TME's concluded that there were no oncological differences between laparoscopic and open resections for the treatment of primary rectal cancer.⁴

Laurent *et al* emphasized the importance of specialization in TME in their series of 238 laparoscopic TME's with 5 year follow up (median follow up=52 months).⁵ The conversion rate was 15%. The local recurrence rate was 3.8% in laparoscopic completed and no worse (3.5%) in laparoscopic converted cases.

Both these figures being lower than 5.5% observed for their open TME's. These results correlate with other studies.^{6,7}

These reports from laparoscopic colorectal centers show that laparoscopic resection for rectal cancer with TME can be achieved without oncologic compromise and with potential benefits in terms of transfusion requirements, return of gut function, R O resection rate and length of stay when compared to conventional resection.

Commentary

The concept of total mesorectal excision (TME) for carcinoma rectum was introduced by William Heald in 1979.⁸ The goal of TME is the excision of rectum along with its blood vessels and surrounding lymph nodes within an intact visceral fascia are the key elements in minimizing pelvic recurrence. Laparoscopic surgery for colon cancer was first reported in 1991. Laparoscopic anterior resection was first described in the early 1990's. The technical limitation of that era would always make it difficult to even for the most experienced surgeons to operate laparoscopically low in pelvis and, obviously, it was difficult to achieve oncological equivalence when compared with conventional TME surgery.

However, increased surgical skill, training, experience, advances in laparoscopic instrumentation and imaging technology made laparoscopic modality an oncologically acceptable and surgically more appropriate a management.

However, the modality may still not be treated as the gold standard. Many studies reporting laparoscopic TME include small number of patients and follow up of less than 3 years. In addition, some studies claimed to have performed TME have not consistently provided information regarding distance of the tumor from anal verge, oncological data, clearance of circumferential margin and selection/exclusion criteria.^{10,12}

Similarly, some reports provided no details on the method of randomization or definition and the rate of conversion, nor whether the analysis was performed on an intention to treat basis.¹⁰ Even the most reputed CLASICC trial has been criticized for high conversion rates of 34% and high rates of CRM positivity of 16%. This is in spite of the fact of the very strict inclusion criteria for the CLASICC trial like every operating surgeon must have performed more than 20 laparoscopic anterior resections before submitting patient onto the trial.

In developing countries like ours, the trend has been to jump to technical advances without proper training, proper instrumentation and proper imaging modalities. The problem gets more compounded by under-reporting of complications

and conversion rates. This fascinates our young surgeons more and more to take up the craft at a very juvenile stage ending up many a time in laparoscopic disasters. Ideal is to acquaint yourself very well with procedures like TME in open method, then switching over to laparoscopy in a staged manner after getting a proper training from a renowned laparoscopic colorectal centre. It is worthwhile to take more time to learn the proper technique rather than compromising the basic principles of TME and oncology by jumping over to laparoscopy too fast.

References

1. Bretagnol F, Lelong B, Laurent C *et al.* The onological safety of laparoscopic total mesorectal excision with sphincter preservation for rectal carcinoma. *Surg Endosc.* 2005;19:892-5.
2. Guillon PT, Quirke P, Thorpe H *et al.* Short term and points of conventional versus laparoscopic assisted surgery in patients with colorectal cancer (MRC CLASICC trial): multicentre randomized controlled trial. *Lancet* 2005;365:1718-26.
3. Jayne DG, Guillou PJ, Thorpe H *et al.* Randomized trial of laparoscopic assisted resection of colorectal carcinoma: 3 year results of the UK MRC CLASICC Trial group. *J Clin Oncol.* 2007;25:3061-8.
4. Anderson C, Umar G, Pigazzi A. Oncological outcome of laparoscopic surgery for rectal cancers. A systemic review and meta-analysis of the literature. *Eur J Surg Oncol.* 2008;34:1135-42.
5. Laurent C, Leblanc F, Wutrich P, Schettler M, Rullier E. Laparoscopic versus open surgery for rectal cancer: long term oncologic results. *Ann Surg.* 2009;250:54-61.
6. Tsang WW, Chung CC, Kwok SY, Li MK. Laparoscopic sphincter preserving total mesorectal excision with colonic-Jpouch reconstruction: five year results. *Ann Surg.* 2006;243:353-8.
7. Leroy J, Jamali F, Forbes L, Smith M, Rubino F, Mutter D, Marescaux J. Laparoscopic total mesorectal excision (TME) for rectal cancer surgery: long term outcomes. *Surg Endosc.* 2004;18:281-9.
8. Heald RT. A new approach to rectal cancer. *Br J Hosp Med.* 1979;22:227-81.
9. Jacobs M, Verdeja JC, Goldstein HS. Minimally invasive colon resection (laparoscopic colectomy). *Surg Laparosc Endosc.* 1991;1:144-50.
10. Scheidbach H, Schneider C, Baerlehner E, Konradt J, Koeckerling F. Laparoscopic Colorectal Surgery Study Group. Laparoscopic anterior resection for rectal carcinoma. Results of a registry. *Surg Oncol Clin N Am.* 2001;10:599-509.
11. Anthuber M, Fuerst A, Elser F, Berger R, Jauch KW. Outcome of laparoscopic surgery for rectal cancer in 101 patients. *Dis Colon Rectum.* 2003;46:1047-53.
12. Yamamoto S, Watanabe M, Hasegawa H, Kito Jima. Prospective evaluation of laparoscopic surgery for rectosigmoid and rectal carcinoma. *Dis Colon Rectum.* 2002;45:1648-54.
13. Thou ZG, Hu M, Li Y, Lei Wz, Yu YY, Cheng Z *et al.* laparoscopic versus open total mesorectal excision with anal sphincter preservation for low rectal cancer. *Surg Endosc.* 2004;18:1211-5.

Reprint Request:

Dr. Fazl Q. Parray
Additional Profesor
Department of Surgery
SKIMS, P.Box: 27, Srinagar-190 011.