

# **Laparoscopic Colorectal Cancer Surgery; is it really that good?**

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Laparoscopic Colorectal surgery is a relatively new entry in the arena of minimally invasive surgical procedures. It is perceived to be beneficial to the patient in terms of less post operative pain, better cosmetic results and early return to normality and work.

In the whole of main land Europe and majority of USA, Total Mesorectal Excision (TME) has become the gold standard for rectal cancer surgery. Recurrence rates of less than 5% have been reported with improvement in 5 year survival figures.<sup>1</sup> Can laparoscopic colorectal cancer surgery offer the same benefits for rectal cancers?

The first large randomised controlled trial (RCT)<sup>2</sup> on laparoscopic surgery for colonic cancer included 219 patients. Significant advantages were seen with regards to blood loss, intestinal motility, overall morbidity and duration of hospital stay in the laparoscopic assisted group. Univariate analysis demonstrated a significantly better cancer related survival in the laparoscopic group, but subgroup analysis stratified for tumour stage revealed that survival advantage was primarily limited to stage III disease. Multivariate analysis demonstrated a better cancer related and overall survival in the laparoscopic group. The study was however criticized for a high (14%) loco-regional recurrence rate in the open group, low number of patients receiving adjuvant chemo in the conventional group and the low (<12) number of lymph nodes harvested in both groups thereby casting doubts on appropriate staging.

The multicentre COST trial<sup>3</sup> randomised 836 patients with colonic cancers into laparoscopic assisted and conventional groups. A 21% conversion rate was seen in the lap group along with a longer operative time. The overall complication rate, three year survival and recurrence were identical in both groups.

The multicentre COLOR<sup>4</sup> study randomised 1248 patients with colonic cancers. Blood loss was reported to be significantly less in the laparoscopic group and the usual short term results like time to first bowel movement, post-operative analgesia use and length of hospital stay were all significantly better in the lap group. The overall total cost was not significantly different in the two groups.

The only randomized trial to include rectal cancer is CLASSIC, randomising 794 patients.<sup>5</sup> It has reported an

increased circumferential involvement rate in anterior resection with twice as many patients in the lap group (12%) having an involved margin as in the open group (6%). However this did not reach statistical significance ( $p=0.19$ ). Earlier mobilization and discharge has been difficult to demonstrate with laparoscopic rectal resections; length of stay for rectal resection was two days shorter for laparoscopic than for open surgery but three days shorter for successful lap surgery without conversion (conversion rate 27%). In fact the converted group did particularly badly with a mortality of 13%. The sexual and urinary functions were more impaired in the lap group as compared to open (41% vs 23%).<sup>6</sup>

The inception of fast track accelerated recovery programmes has also put a damper on the enthusiasm of laparoscopic surgeons by demonstrating no difference in the post-operative recovery of gastrointestinal functions, incidence of nausea, vomiting and length of stay between the lap and open groups of patients, both being put through an accelerated recovery after the surgery.<sup>7</sup>

High reported rates of anastomotic leakage after lap surgery are a cause for concern. Morino et al<sup>8</sup> reported a leak rate of 17% in 100 rectal cancers below 12 cm but as high as 25% in those who were not defunctioned. Leroy et al<sup>9</sup> reported a leak rate of 20% below 15 cm.

Laparoscopic colorectal surgery continue to evolve with better and modern instruments, improving teaching and learning facilities and general acceptance amongst surgeons about the potential benefits of laparoscopic procedures. This is manifested in the falling conversion rates and increasing number of laparoscopic colorectal procedures being performed.

On the existent randomised data the outcome of laparoscopic colorectal cancer surgery is probably comparable to open surgery with advantages including better cosmesis, early return of function, less pain and shorter hospital stay. Similar outcomes for both open and laparoscopic groups are also being reported in long term results which are now available for several of the multicentre trials.<sup>10</sup> In rectal cancer surgery the role of laparoscopic techniques still need to be defined clearly. It is also very important to use appropriate selection for lap rectal surgery.

Open and lap colorectal surgery should be used as part of the armamentarium of the modern colorectal unit. The basic question is not lap versus open surgery; it is how to train surgeons in colorectal cancer surgery to achieve better results in terms of morbidity, mortality and 5 year survival.

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