

Laparoscopic management of colorectal cancer

Essay

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general surgery**

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List of abbreviations

- **AAPC:** Attenuated familial adenomatous polyposis.
- **ACPS:** Australian Clinical-Pathological Staging.
- **APC:** Adenomatous polyposis coli.
- **APR:** Abdominoperineal resection.
- **CEA:** Carcinoembryonic antigen.
- **CIN:** Chromosomal instability.
- **CLASICC:** Conventional Vs Laparoscopic-Assisted Surgery
in Colorectal cancer.
- **C.R.C:** Colorectal carcinoma.
- **C.T:** Computed tomography.
- **DALM:** Dysplasia-associated lesion or mass.
- **DCC:** Deleted in colorectal carcinoma.
- **DCBE:** Double contrast barium enema.
- **DVT:** Deep venous thrombosis.
- **EAES:** European association of endoscopic surgery.
- **EEA:** End to end anastomosis.
- **ERUS:** Endo rectal ultrasound.
- **FAP:** Familial adenomatous polyposis.
- **FOBT:** Fecal occult blood testing.
- **FS:** Flexible sigmoidoscopy.
- **GITSG:** Gastrointestinal tumor study group.

- **HALS:** Hand-assisted laparoscopic surgery
- **HCG:** Human chorionic gonadotrophin.
- **HNPCC:** Hereditary non polyposis rectal cancer.
- **IBD:** Inflammatory bowel disease.
- **LEA:** Large external antigen.
- **LHC:** Left hemicolectomy.
- **LOH:** Loss of heterozygosity.
- **MGMT:** Methylguanine DNA methyltransferase.
- **MRC:** Magnetic resonance colography.
- **MRI:** Magnetic resonance imaging.
- **MSI:** Microsatellite instability.
- **PET:** Positron Emission tomography.
- **RCT:** Randomized comparative trials.
- **RER:** Replication error.
- **RHC:** Right hemicolectomy.
- **TME:** Total mesorectal excision.
- **UC:** Ulcerative colitis.
- **U.K:** United Kingdom.
- **U.S:** United States.
- **WHO:** World health organization.

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Aim of the work

The aim of this study is to evaluate the feasibility of laparoscopic management of colorectal cancer to highlight the indications, benefits, limitations, results and complications of laparoscopic management of colorectal cancer.

Introduction

Colorectal cancer is the third most common form of cancer and the second leading cause of cancer-related death in the western world.

Colorectal cancer causes 655,000 deaths world wide per year. (1)

Around 100 new cases of colorectal cancer are diagnosed each day in the UK and it is the third most common cancer after breast and lung. (2)

Colorectal cancer in Egypt has no age predilection and more than one-third of tumors affect a young population. (3)

The feasibility of using laparoscopic techniques to resect potentially curable colorectal cancer was established within a few years after the advent of the laparoscopic revolution in the late eighties and a number of enthusiastic surgeons have carried the banner for laparoscopic colorectal surgery despite the absence of data from large randomized controlled trials. (4-6)

The potential advantages of laparoscopic assisted surgery for major organ surgery have been well documented, with decreased hospital stay, less post operative pain and quicker return normal function. (7)

The first and perhaps most important of the concerns which have been raised against laparoscopic colorectal cancer surgery was whether or not those surgeons who practiced the approach were performing resections which were as radical as those undertaken by conventional open approaches. Reports from single-center and multicenter

large retrospective series suggested that the pathological margins of the resected specimens were not less extensive than those removed by conventional open surgery. (8)

The CLASICC (Conventional Vs Laparoscopic-Assisted Surgery in Colorectal cancer) trial did highlight that in those patients undergoing sphincter-preserving surgery for rectal cancer, there was a higher (but statistically non significant) incidence of positive circumferential resection margins in those undergoing laparoscopic surgery than in those who had open surgery. (9)

The positive resection margins in the laparoscopic group has clinically implications in terms of local recurrence remains to be seen, but the long term recurrence rates in this trial are under analysis at the time of writing. (10)

The pathological data thus far confirm approach and the open operation, but pending the analysis of clinical results in terms of local recurrence and survival, some caution is required before the laparoscopic approach can be widely adopted for sphincter preserving resections of rectal cancer. (11)

The next most disturbing aspect of laparoscopic-assisted surgery for colorectal cancer which deterred many surgeons from adopting the approach relates to the possibility that is associated with atypical patterns of recurrence such as cerebral metastases (12), peritoneal metastases (13), and port-side metastases (14).

At present it seems appropriate to say that laparoscopic-assisted surgery for colonic cancer possesses some short-

term advantages and produces long-term oncological results which are at least as good as conventional open surgery. (15).

It is the cancer patient; however, who stands to potential benefit more from a minimally invasive approach due to the decreased immune paresis should allow less tumor recurrence and improve patient survival as well as quality of life. (16).