LAPAROSCOPIC APPENDECTOMY: SHOULD WE CONTINUE?

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Although widely practiced, laparoscopic appendectomy (LA) has not met with universal approval. Systematic research of the literature, analysis and criticism of 21 controlled studies (nearly 2000 patients) on laparoscopic appendectomy and two randomized studies dealing with diagnostic laparoscopy still leave doubts as to its usefulness and appropriateness. Because of questionable quality of most of the randomized controlled trials (number of patients, exclusions, withdrawals, blinding, intention-to-treat analysis), publication biases, local practice variations (hospital stay, rate of enrollment), results regarding analgesia requirements, return to activity and work, duration of hospital stay, outcome, follow-up, and antibiotic prophylaxis must be interpreted with caution. The real world of appendicitis probably differs greatly from the atmosphere under which controlled trials comparing LA and OA have been performed. Statistical significance of some results found in these trials has to be weighed against their clinical significance. Consistently longer operating times (the difference ranging from 8 (ns) to 29 (p<0.0001) min), a minimal reduction in hospital stay (0.1 (ns) to 2.1 (p<0.007) days), and somewhat more controversial, an earlier return to normal activity was reported for LA. Data on analgesic requirements were confusing but wound complications were more frequent after OA (pooled odds ratio for 10 studies: 2.6 (95% CI 1.3-5.2)). Unresolved problems include national behavioral problems, age and experience of operating surgeons (LA or OA), emergency conditions (availability of staff, instruments). Troubling still is the problem of whether diagnostic laparoscopy has a real role in appendicitis. Results of cost analysis vary according to the standpoint of disease, the patient, the surgeon, the treatment center, industry and last, society. Three further questions may be asked: 1) because of the competition LA vs. OA, OA has improved greatly: can it be improved any more? 2) is there a place or need for further RCT? 3) What is the place of laparoscopy in the treatment of peritonitis and/or abscess of appendiceal origin? Answers to these questions are not known with certainty and should still be discussed.

LOCALLY RECURRENT RECTAL CANCER

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Despite advances in the technique of surgical management of rectal cancer and the use of adjuvant therapy, local recurrence of rectal cancer remains a significant problem. Prevention of local recurrence should be a primary goal of the operating surgeon and the multidisciplinary team. The incidence of local recurrence following curative resection of rectal cancer ranges from 4% to 33%.

Some of these patients are potential candidates for curative re-resection and therapy. This paper will address the diagnostic work-up and management of this difficult problem.

RISK FACTORS FOR LOCAL RECURRENCE

Risk factors for local recurrence can be divided into tumor specific risk factors, as well as technical risk factors.

A. Tumor-specific risk factors

The more advanced the stage of the primary rectal cancer, the greater the potential for local recurrence. Stage I rectal cancer has a very low potential for local recurrence when surgical resection is done appropriately. The chance of local recurrence is increased for Stage II and III rectal cancers, even with the use of adjuvant chemoradiation. High-grade and mucinous rectal cancers have a higher potential for local recurrence. Other tumor-specific risk factors include obstructing cancers and locally perforated cancers. The more distant the location of the tumor within the rectum, the greater the likelihood of local recurrence.

B. The technical risk factors

Incomplete or compromised resection for rectal cancer increases the potential for local recurrence. Clinical and pathological studies have been correlated, showing that a positive resection margin carries a high chance of local recurrence, whereas a curative resection achieving negative margins has a much lower chance of recurrence. Adherence to the technique of total mesorectal excision increases the likelihood of achieving negative margins and resecting tumor deposits in the mesorectum, and is thus associated with a lower incidence of locally recurrent rectal cancer. Other technical risk factors are implantation of exfoliated tumor cells; rectal washout techniques decrease the number of exfoliated cells within the lumen of the rectum, and may impact local recurrence rates. The technique of resection has been found to be extremely important in lowering the local recurrence rate, and eventual outcome following rectal cancer surgery. A sharp total mesorectal excision technique is advocated, which is much less likely to compromise the mesorectum than a blunt dissection technique. In recent years, the surgeon has been identified as being an independent variable in the potential for local recurrence.

PROGNOSTIC FACTORS FOR SURGICAL OUTCOME

The duration of time between the resection of the primary rectal cancer and the eventual diagnosis of a local recurrence is a prognostic factor for outcome following surgery for local recurrence. A short interval of less than one year to recurrence denotes a poor prognostic indicator. This may reflect both the adequacy of the original surgical resection and/or the biology of the cancer. The technique of primary resection is clearly a factor. Patients undergoing a properly conducted total mesorectal excision have been shown to have a lesser incidence of local recurrence compared to conventional resection. An isolated true anastomotic recurrence is a good prognostic factor for eventual surgical outcome. Many of these anastomotic recurrences are likely related to implantation of tumor cells in the fresh anastomosis, and are generally identified at an early stage at endoscopic follow-up. This makes them more likely to be resectable with negative margins. Central recurrences, as opposed to peripheral recurrences, are more likely to be resectable with a negative margin, and are therefore more amenable to a better surgical outcome.
MANAGEMENT OF LOCALLY RECURRENT RECTAL CANCER

The management of locally recurrent rectal cancer can be divided into three phases. Phase 1 involves the diagnosis, evaluation and preoperative work-up of the patient, with re-staging to define the extent of disease. Phase 2 involves preoperative chemoradiation in those patients who are candidates. Phase 3 involves surgical and ancillary approaches to the local pelvic recurrence.

A. Diagnostic work-up.

Once the diagnosis of a local recurrence is established, the patient should undergo a general evaluation and risk assessment. If the patient is relatively healthy, ASA I-II class without evidence of distant disease, then the patient may be a candidate for potentially curative therapy. The patient should undergo re-staging at this juncture. This is performed to identify any contraindications to surgical resection. If not already established, histologic verification of recurrence should be confirmed by either endoscopic biopsy or a CT-guided biopsy. The work-up should include a complete clinical examination, and imaging studies to determine resectability and to rule out distant metastatic disease. Most patients are initially evaluated by CT imaging, to include the chest, abdomen and pelvis. CT scanning has been demonstrated to be accurate in determining resectability of recurrent rectal cancers.1-4 Once a pelvic recurrence is established, an MRI of the pelvis with infusion studies can provide additional valuable information regarding resectability. The extent of pelvic sidewall involvement, sacral involvement, and proximity and potential involvement of the major pelvic and sacral nerve roots, are all best seen with MRI imaging. Clinical examination can determine if the recurrence is mobile or only tethered or whether it is a fixed lesion. An assessment regarding potential resectability can be made by the clinical examination. Extra-rectal recurrences are often best imaged by endorectal ultrasonography, particularly when a definite plane can be conducted. Patients who have had full dose previous radiation therapy, then no additional preoperative radiation can be administered, although aggressive chemoradiation is an option in select patients. If patients undergo preoperative chemoradiation prior to definitive surgery, it is a reasonable consideration to perform re-staging imaging studies, to rule out interval development of distant metastases, before subjecting the patient to a radical resection.

B. Assessment for preoperative therapy

Patients diagnosed with a pelvic recurrence, who have had no prior radiation therapy, are candidates for preoperative chemoradiation in an attempt to downsize the recurrence and increase the potential for negative margin resectability. If patients have had limited prior radiation therapy, a modified regime can be conducted. In patients who have had full dose previous radiation therapy, then no additional preoperative radiation can be administered, although aggressive chemoradiation is an option in select patients. If patients undergo preoperative chemoradiation prior to definitive surgery, it is a reasonable consideration to perform re-staging imaging studies, to rule out interval development of distant metastases, before subjecting the patient to a radical resection.

C. Surgical Resection

Prior to making the decision regarding resection of the recurrence, it is paramount that the resectability be carefully evaluated and determined before offering this to the patient. Having a multidisciplinary team involved that may include an orthopedic surgeon, a urologist, and a plastic surgeon is very important to the overall management of significant pelvic recurrent disease. The magnitude of the operative procedure and the likelihood of potential cure need to be very realistically discussed with each patient. Some surgeons consider that an abdominoperineal resection should be performed, rather than a sphincter saving resection, for all resectable pelvic recurrent disease. This is not universally accepted, and our policy is to offer restorative resection to patients who have an adequate distal margin of resection. Nevertheless the potential for a stoma, either permanent or temporary, should be addressed. The extent of surgery, prognostic factors and reconstructive issues should be discussed in detail with patients and their families prior to embarking on surgical exploration.

Resections for recurrent rectal cancer should be undertaken with curative intent, although in reality most of these procedures end up being palliative rather than curative. Careful surgical planning is mandatory. In pelvic reproductive surgery, the use of preoperative cystoscopy and placement of bilateral ureteral stents is very helpful in identifying the ureters and protecting them from inadvertent iatrogenic injury. A midline abdominal incision is made. Careful exploration of the abdomen is undertaken, to rule out undetected extra-pelvic recurrent disease. Depending on the anticipated extent of the pelvic resection, extra-pelvic disease is generally considered to be a contraindication to radical resection of the pelvic recurrence. Exceptions to this are in young, fit patients with potentially resectable distal disease. The next step in the exploration is to assess the extent of pelvic disease to determine if resection is technically feasible. In about 15% of cases exploration will determine that the disease is not resectable. In such cases the goal of the procedure should be to provide optimal palliation, particularly where there is imminent risk of obstruction. Once a decision is made to proceed with resection of the pelvic recurrence, then mobilization of the small bowel out of the pelvis to gain adequate access and exposure to the pelvis is performed. An intraoperative decision is then made as to the plane of resection, depending on the local extent of the recurrence. In general, three potential surgical planes of resection can be considered. For patients having an inadequate primary resection, the plane between the visceral and the parietal fascia may still be intact, and in very selected cases this proper plane of resection can then be dissected. In most instances, however, the plane of dissection on the pelvic sidewall will be external to the parietal fascia, along the vessels and nerves of the pelvic sidewall. This constitutes the second plane of potential resection. The third plane of potential resection is lateral to the internal iliac vessels. If the recurrence involves adjacent organs such as the bladder, seminal vesicles or prostate in a male, or the bladder, uterus or vagina in the female, or the sacrum, then an extended resection may be necessary in order to achieve negative margins. Ideally this possibility should have been already discussed preoperatively with the patient. It is essential, under these circumstances, to have a multidisciplinary team in place, in the event that in continuity resection of major adjacent organs is necessary, and for reconstructive considerations following resection. Once the recurrence is resected, frozen sections can be obtained from the margins of resection. Selective use of intraoperative radiation therapy, if available, is considered at this point. This can be administered by either intraoperative external beam or by brachytherapy. Each modality has its proponents, and is largely determined by the availability of local expertise.15,16,20 Viable tissue to help close the perineal and pelvic wound is very helpful in healing. Reconstruction can be aided with the use of an omental pedicle flap or a myocutaneous flap such as a rectus abdominis or transposed graciloplasty.18,19 Recurrence after abdominoperineal resection is a difficult management problem. This is particularly true of male patients, in which recurrence following abdominoperineal resection almost always necessitates a pelvic exenteration. In female patients who have an intact uterus and vagina, the bladder is usually protected, and resection to incorporate the uterus, ovaries and posterior vagina is usually adequate, with preservation of the bladder under these circumstances. Pelvic exenteration when necessary, while a very radical procedure, does improve chances of achieving a negative margin, and very satisfactory five-year untreated survival.

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Contraindications to resection include extra-pelvis disease, with the exception of young, fit patients with potentially resectable distant metastatic disease. Sciatic pain and imaging evidence of involvement of the sciatic nerve is a contraindication to radical pelvic surgery for recurrence. Bilateral hydrenephrosis is a relative contraindication, but in some patients amenable to total pelvic exenteration this does not constitute an absolute contraindication. In general, patients with circumferential pelvic sidewall involvement are not candidates for resection, and patients with SI1 or SI2 bony or neural involvement are not candidates for radical resection. Similarly, patients who are poor surgical risks, with ASA IV or V classifications, are not candidates for the extent of surgery necessary to resect a pelvic recurrence.

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REFERENCE

Obstructed colorectal carcinoma

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The most devastating complication of colorectal carcinoma is obstruction; it has been associated with poor outcome. An obstructing carcinoma suggests an advance lesion that frequently associated with poor nutrition, and/or prospect of metastatic disease. Obstructed colorectal carcinoma requires emergency correction and frequently there is no time for pre-operative clinical workups. Nevertheless, obstructed carcinomas may possibly require staged surgeries.

The incidence of obstructed colorectal carcinoma is 2.16% and is commonly the cause of large bowel obstruction for elderly patients. One third of the obstructed carcinoma occurs in the right colon and two thirds in the left colon. The most common location of colorectal carcinoma is sigmoid and splenic flexure, followed by descending colon and ascending colon.

Choice of surgical method for obstructed colorectal carcinomas is controversial. In a patient with obstructed carcinoma is frequently have a dilated proximal bowel, it is risky to perform a resection with primary anastomosis in absence of a mechanical bowel preparation. Many literatures have pointed out the increased risk of clinically significant anastomotic leakage for one stage surgery. Because of the risk of perioperative mortality and morbidity, numerous surgical options have been put forward. These included, the Paul-Mikutycz procedure, three stage procedures, Hartmann’s operation, single stage resection with primary anastomosis with or without on-table lavage, and endoscopically place expandable metal stent.

The surgeon plays an important role in the treatment of the obstructed carcinoma of the colon and rectum. Early recognition of the clinical presentation and accurate diagnosis is important. Intraoperatively, an extra attention to details can avoid disastrous fecal contamination or tumor spillage. Choice of surgical method is an important factor to successfully manage of obstructed patient. The choice among the procedure mentioned above should depend on the specifics of each patient's condition, the availability of the facility, and mature judgment of a surgeon depending on the surgeons' familiarity with the surgical practices of colon and rectal surgery.