REVIEW

The management of rectal cancer in a resource poor environment — A review

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KEYWORDS
Rectal cancer; Developing world; Staging; Anterior resection; Hartmann procedure; Abdominoperineal Resection; Radiotherapy

Abstract Rectal cancer is an increasing problem in the developing world. There is little written on how to manage this problem outside the confines of major teaching hospitals in Western Countries. In these centres debate surrounds preoperative staging, the use of preoperative radiotherapy and sophisticated sphincter preserving procedures. The literature is complex and of little relevance to those faced with a patient with rectal cancer in rural Africa or Asia far from the ivory towers.

This review aims to combine the best of evidence based medical practice related to the management of rectal cancer with the practical realities of operating in resource poor environments.

In this situation staging is by means of simple radiology and a clinical examination supplemented by an examination under anaesthetic. If there are no distant metastases and the tumour is freely mobile a resection can be attempted. An abdominoperineal resection is a good operation with a proven track record. If an anastomosis can be fashioned then an anterior resection is an excellent operation and should be performed extraperitoneally to avoid local recurrence. It is vital to counsel the patient preoperatively. The pros and cons of referral to a centre of excellence need to be discussed with the patient prior to any intervention.

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Introduction

Rectal cancer is an increasing problem in the developing world. Although not yet common it is a significant surgical issue as much of the disease is advanced at presentation and therefore difficult to manage. There is little written on how to manage this problem outside the confines of major teaching hospitals in Western Countries. In these centres debate surrounds preoperative staging, the use of preoperative radiotherapy and sophisticated sphincter preserving procedures. The literature is complex and of little relevance to those faced with a patient...
with rectal cancer in rural Africa or Asia far from the ivory towers.

This review aims to combine the best of evidence based medical practice related to the management of rectal cancer with the practical realities of operating in resource poor environments. By this we mean those places where sophisticated imaging and adjuvant oncological facilities are either absent or difficult to access. This is not to say that there are not such facilities in the developing world but rather to address the issues as they are for the majority of surgeons in the developing world.

Staging and neoadjuvant radiotherapy

Preoperative staging is generally accepted as being of great importance in the management of rectal cancer. This is because of the recognition that preoperative radiotherapy decreases the risk of local recurrence by about 50% in patients with locally advanced tumours. However, there remains debate in the literature regarding optimal use of preoperative radiotherapy and chemotherapy. While it is generally agreed that radiotherapy should be given preoperatively rather than postoperatively if possible, predicting which patients will benefit from neoadjuvant therapy is a subject of great debate. The debate surrounds predicting which patients are likely to be node positive and in which patients it will be difficult to achieve a clear circumferential margin, this being a key factor in prevention of local recurrence. The gold standards for local staging are endoanal ultrasound and magnetic resonance imaging. It is unlikely that these modalities are easily accessible to patients in the developing world if only for financial reasons.

Without these modalities, potential resectability (with a clear circumferential margin) is assessable by an examination under anaesthetic. Accuracy ranges from 44 to 83% and increases with experience. If the tumour is fixed then it is best judged as not resectable and consideration needs to be given as to the best way in which palliation may be achieved. If the tumour is tethered or freely mobile then the best management is probably an attempt at resection. Due to difficulties with access to radiotherapy it is difficult to recommend preoperative radiotherapy outside major centres where this is readily available and the machines are capable of delivering the radiation dose precisely.

Consideration then needs to be given to staging of metastatic disease. Most hospitals where surgery is performed have access to ultrasonography and chest X-rays and these are reliable methods of assessing the presence or absence of liver and lung metastases. Unless the patient is very symptomatic from the rectal cancer it would be unwise to attempt resection in a patient with a heavy burden of metastatic disease. If it is thought necessary to operate then a well formed end stoma is probably the safest option in a patient with a limited life span unless the operation can be confidently and safely performed without need for a defunctioning stoma.

Operative treatment

Given that the surgeon in a resource poor environment is unlikely to have access to neoadjuvant therapy then the only weapon in the armamentarium is a good operation. In the West the standard of care is a total mesorectal excision of the rectum with a double stapled anastomosis. Interestingly some doubt regarding the wisdom of this approach has been raised in recent years especially with very low anastomoses. It has been demonstrated that the quality of life following an abdominoperineal resection of the rectum (APR) is similar to that following a low anterior resection. A stoma is probably associated with a decreased quality of life in the developing world but it may well be better than a very poorly functioning anastomosis.

Alternatively, a low anterior resection with a handsewn coloanal anastomosis is a cheap and oncologically sound option. Others have described an intersphincteric perineal dissection and coloanal anastomosis although this is associated with a worse quality of life than a conventional anastomosis.

Although there is a thought that stomas are taboo in the developing world our experience is that this is not the case. Relatively high rates of APR from specialised centres in the developing world would suggest that stomas are acceptable if reasonable stoma care is available. With appropriate counselling and reasonable stoma care in the hospital prior to discharge many patients do very well.

There are certain absolute contraindications to a low anastomosis. The most important one, other than the ability to achieve clear margins, is a poorly functioning anal sphincter mechanism. There are very sophisticated methods of measuring sphincter function but a surgeon performing a rectal examination is probably as accurate and it is generally true that the presence of good preoperative continence is the best indicator of postoperative continence after an anterior resection.
An ultralow Hartmann’s procedure avoids a perineal wound and may be the most appropriate procedure in selected patients. However, it is not the perfect alternative to the APR as there is a high pelvic collection rate after this procedure.

There remains debate over the best stoma for those patients who are defunctioned, the choice between a loop ileostomy or a loop transverse colostomy. If surgery does necessitate a defunctioning stoma this can be closed at 10 days postoperatively if there are no complications and a contrast study shows no leak. If a contrast study is not available then the stoma can be closed at 6 weeks postoperatively without the contrast study if the postoperative course is uneventful and the anastomosis is normal on clinical examination.

It has become clear over the last century that the best operation for rectal cancer is an extrafascial excision of the rectum. In many centres this is known as a total mesorectal excision (TME) but for cancers of the upper rectum a resection less than a total mesorectal excision can be performed where the mesorectum is dissected in the extrafascial plane and is divided at least 5 cm below the tumour and the anastomosis fashioned in the mid rectum. The surgeon needs to take particular care posteriorly to dissect outside the fascia propria of the rectum through areolar tissue between this and the presacral fascia. At the pelvic brim care needs to be taken with the pelvic autonomic nerves and anteriorly it is probably easiest to stay behind Denonvillier’s fascia. If the tumour is found to be breaching fascial planes then an anastomosis seems unwise as local recurrence is likely and this could lead to obstruction in the future. A well fashioned stoma at this stage is perhaps easier to live with. Postoperative radiotherapy, if available, may well be appropriate in this situation.

It is of course important to be aware of the possibility of a synchronous colonic cancer and if preoperative colonoscopy or barium enema is not available a thorough examination of the colon at laparotomy is mandatory.

The role of referral to a centre of excellence

Each surgeon needs to ask himself what is best for the individual patient. There is clear evidence from Western Centres that rectal cancer is best managed by surgeons who perform large numbers of operations for this condition in hospitals where multidisciplinary teams work together to provide optimal care for patients. If it is possible to refer the patient to such a centre this would be wise. This decision is often very difficult to make and a second opinion is advisable in this situation. An appropriate discussion with the patient regarding the pros and cons of referral to a centre of excellence will need to be entered into.

Conclusions

In this paper we have attempted to provide a rationale for management of a patient with a rectal cancer presenting to a surgeon in a resource poor environment. In this situation staging is by means of simple radiology and a clinical examination supplemented by an examination under anaesthetic. If there are no distant metastases and the tumour is freely mobile a resection can be attempted. One option for very low tumours is an ultralow Hartmann’s procedure avoiding the complications of a perineal wound. Otherwise an APR is a good operation with a proven track record. If an anastomosis can be fashioned then an anterior resection is an excellent operation and should be performed extrafascially to avoid local recurrence.

It is vital to counsel the patient preoperatively. The pros and cons of referral to a centre of excellence need to be discussed with the patient prior to any intervention.

References


