



Local Recurrence of Rectal Cancer: Anterior Resection versus Abdomino-Perineal Resection

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Local recurrences of rectal cancer after surgical therapy are a mainly diagnostic and therapeutic problem. The Authors report their experience in local recurrences of rectal cancer. They consider anterior resection versus abdomino-perineal resection, the type of anastomosis and the stage of primary disease. Follow-up is discussed emphasizing early diagnosis for local recurrences.

KEY WORDS: Rectal cancer, recurrences - Rectal cancer, surgery.

The problem of local recurrence in cancer of the rectum is of current importance because the use of mechanical staplers has remarkably increased the number of sphincter-saving resections. Surgeons have wondered if these sphincter-saving operations present repercussions during oncologic follow-up. In fact, today, with mechanical staplers, in the case of a cancer located on the level of the medium-lower rectum a surgeon is able to choose between anterior resection and abdomino-perineal resection. However, the question is if the two techniques are equivalent from an oncologic point of view.

This paper compares the data of our series relative to the two techniques.

Series

Patients who had received radical operation for rectal cancer are included in this study. A curative operation consisted of sigmoido-rectal resection, ligation of the lower mesenteric artery at its origin, the complete dissection of regional and mesorectal lymphnodes done to the level of the lower third of the rectum. Such a dissection was made in the tumours of the middle and upper third of the rectum too.

In order to render our evaluations more homogeneous we excluded synchronous neoplasms, multiple polyposis, ulcerative colitis and the cases subjected to adjuvant therapy.

The study refers to the first two years of follow-up after the operation. This is the time within which most recurrences occur.

To identify exactly the seat of the neoplasm we must refer to the higher and middle-lower rectum, taking peritoneal reflection as a limit.

Resection has always been carried out at not less than 2.5 cm from the lower limit of the tumour.

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Three-hundred and twenty-seven patients were observed in our Department after 1979. The sex, age, seat of neoplasm, type of operation, stage, lymphatic metastases, grading, site and time of recurrence were data taken from 206 patients.

Of these 115 were men and 91 women. Their ages ranged from 26 to 91 years, with an average of 66 years. The seat of the neoplasm was the higher rectum in 60 cases, that have all been treated with anterior resection; in the other 146 cases the seat of the neoplasm was the middle-lower rectum and these were treated with anterior resection in 63.6% of cases (93 patients) and with abdomino-perineal resection in 36.3% (53 patients).

Patients were grouped according to Duke's classification modified by Astler-Coller. Three per cent were in stage A, 18% in stage B1, 39% in B2, 16% in C1 and 23% in C2.

In the first two years after the operation 14.07% of patients (29 cases) had recurrence. This percentage, in a larger group of 327 patients mentioned above and not considered in the study because of lack of information rose to 19.6%, in a period of five years: 14.7% after abdomino-perineal resection and 23.5% after anterior resection.

The free interval was on an average of 16 months with a minimum of six and maximum of 21 months.

Recurrences have appeared in 3.3% (two cases) of patients operated for cancer of the higher rectum and in 18.49% (27 cases) of patients operated for a tumour of the middle-lower rectum. In this seat, 18.8% (ten cases) had recurrences after abdomino-perineal resection and 18.2% (17 cases) after anterior resection.

Local recurrences has appeared in 16.26% of cases of neoplasm without node metastasis (Table II). This happened exclusively in B2, since no case in B1 and A had recurrence. More precisely in B2 we had 11 recurrences, corresponding to 8.94% of the total after anterior resection and nine corresponding to 7.31% after abdomino-perineal resection. Tumours with node

TABLE I.—Recurrences, seat and type of operation.

| | | |
|----------------------------|--------------------------------------|------------------------------------|
| Recurrences 29 (14.07%) | { upper rectum 2 middle rectum 27 | { after A.P.R. 10 after A.R. 17 |
| | | |

TABLE II.—*Recurrences and lymphnode metastasis.*

| | | |
|--|---|---|
| Neoplasms without lymphnode metastasis: 20/125 | } | stage A = 0 stage B1 = 0 stage B2 = 20 — 11 after A.R. — 9 after A.P.R. |
|--|---|---|

TABLE III.—*Recurrences and lymphnode metastasis.*

| | | |
|---|---|--|
| Neoplasms with lymphnode metastasis: 9/81 | } | stage C1 = 3 — 2 after A.R. — 1 after A.P.R. stage C2 = 6 — 3 after A.R. — 3 after A.P.R. |
|---|---|--|

metastasis had recurrences in 11.25% of cases, and we had three cases in stage C1: two after anterior resection (A.R.) and one after abdomino-perineal resection (A.P.R.); six cases in stage C2: three after A.R. and three after A.P.R. No tumour in stage A presented recurrence.

In well-differentiated cases 9.2% presented recurrence, in moderately differentiated 13.9%; in undifferentiated 35.1%; in muciparous neoplasms 65%.

Only one recurrence certainly started from anastomosis and it occurred in one of the two cases of recurrence after resection of the upper rectum. No relevant differences were found in males or females.

Discussion

Some considerations can be made from our experience.

1. Local recurrences rarely start from the rectal wall. This datum,²⁶ already mentioned in our preceding retrospective study on rectal cancers operated in our Department from 1967 to 1979, is now confirmed by the only case observed in this series. This also confirms the absence of a relationship between recurrence and the extent of distal rectal resection. The datum also coincides with the literature.^{11 12 13 14 22} It is important to point out that in patients in our preceding study²⁶ rectal section very rarely fell to less than 4 cm from the neoplasm, whereas in this study distal section dropped to 2-2.5 cm from the tumour and results have not changed.

2. Local recurrence seems to be connected to local invasion.^{6 8 16 17} Stage B2 and in sub-order C2 present recurrence in particular when the serosa has been affected rather than when lymphatic metastasis was present at the operation. Moreover, recurrence is more frequently seen in the lower-middle rectum rather than in the upper rectum.^{11 13 19 20 25} And so, it is a problem of invasion and of the site of the tumour. Probably anatomic factors play an important role.¹⁸ The numerous lymphatic connections, the lightness of the fasciae in the prostatic and subprostatic pre-rectal area or the equivalent in the wom-

an; the continuity of elevators with rectal muscular tissue and the connection of the hemorrhoidal middle and lower lymphatic vessels can be anatomic risk factors.^{5 6 9 12 28}

In fact the upper hemorrhoidal lymphatic group is always surgically removed with the rectum. Drainage of the middle and lower hemorrhoidal groups can continue in spite of the lymphadenectomy. This datum emphasizes the need for a particularly precise resection of the perirectal tissues.^{21 23 24} Anterior resection is an important risk for sexual function especially in men.

3. It seems that A.P.R. assures a more radical operation in the neoplasms of the middle-lower rectum. With two years of follow-up, the percentages of recurrence are mostly equivalent: 18.2% after A.R., 18.8% after A.P.R. The datum is ulteriorly confirmed by the dividing of the percentage of recurrence into neoplasms without lymphatic metastasis (Table II) where we find very small differences between A.P.R. and A.R. with percentages of recurrence respectively 7.31% and 8.94%. If however, we take into consideration the data of the post-clinical follow-up of the larger group of 327 patients, it would seem that the possibility of recurrence is greater after A.R. rather than after A.P.R.

4. Grading seems to play an important role in local recurrences.^{6 10 16} Only 1/3 of patients in stage A present recurrences and only one out of ten in well-differentiated neoplasms. The Authors do not agree on this point. Some of them are doubtful about a relationship between grading and recurrence.^{15 21 29}

5. Recurrences appear with the same frequency in men and women.

These observations show that the result of surgical treatment of rectal cancer cannot only depend on surgery, but is bound to different factors where surgery can relatively intervene.

It is necessary to discover the therapy associated to surgery—which remains an unreplaceable instrument for the treatment of rectal cancer—in order to block the greatest number of these factors and so as to aim for better survival, quality of life and the free interval itself.

Like other surgeons our orientation was to preoperative radiotherapy. Patients are submitted immediately after diagnosis to a cycle of radiotherapy according to this protocol: 40 Gy in 20 sittings on neoplasm within a restricted field using devices to protect the bladder and the small intestine. The irradiation is generally well tolerated with modest signs of local inflammation but this is not always present. The patient is operated 30 days after the last radiotherapy session. Even if series are still limited we confirm the impression that from a technical point of view, operating a month after radiotherapy those "postirradiation" surgical difficulties normally met with, when operations take place after a greater lapse of time, are avoided. Twenty-three patients have been treated in our Department up to 31st July 1988 with surgery and radiotherapy. The first 12 have been operated and followed-up for 24 months and so far there has been no recurrence. Obviously we can draw conclusions and formulate pro-

posals only when a large number of cases and a period of observation sufficiently long is available.

However, in order to improve results, an early diagnosis is necessary. The results of surgical therapy of rectal neoplasms and of neoplasms of the large bowel with or without adjuvant therapy have been stationary for a long time and increased survival is only possible with an early diagnosis.

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