

Local excision carcinoma in early stage

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Abstract

AIM: To assess the validity of local excision for the early stage low rectal cancer as an effective treatment alternative to radical resection.

METHODS: A retrospective medical chart review was done in 47 patients with early stage low rectal carcinoma who underwent local excision from November 1980 through November 1999 at Cancer Hospital of Chinese Academy of Medical Sciences (CAMS). The patients were treated by either transanal (40 cases), trans-sacral (5 cases), or trans-vaginal (2 cases) excision of tumors and no death was related to surgery. Sixteen patients received postoperative radiotherapy.

RESULTS: T1 and T2 lesion was found in 36 (76.6 %) and 11 patients (23.4 %) respectively. The overall local tumor recurrence rate was 14.9 % (7/47), with an average recurrence time of 21 months. Among these 7 recurrent patients, there were 4 T1 and 3 T2 lesions. Microscopically, the surgical incisional margin was negative in 45 (95.7 %) and positive in 2 patients (4.3 %); Both of the later had developed local recurrence. The overall 5-year survival rate was 91.7 %, in which there were 94.4 % for T1 and 83.3 % for T2 tumors. T stage, intravessel tumor thrombosis, lymphocytic infiltration and histological grade were not found to be significant by related to the local recurrence and survival ($P>0.05$).

CONCLUSION: Local tumor excision was a safe procedure for the treatment of early stage low rectal carcinoma with minimal morbidity and mortality, which might serve as one of the primary surgical treatment methods for the disease of this kind.

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INTRODUCTION

Abdominoperineal resection (APR) has traditionally been used to treat the Adenocarcinoma of the low rectum^[1-2]. In which a

permanent colostomy has to be performed, leading to the risk of complications, inconvenience of patients and even death^[3,4]. More recently, local excision has been performed with the curative intent to remove the well-differentiated lesions that are less than 3 cm in diameter and limited to the mucosa or submucosa^[5-7], which offers these patients fewer operative complications and long-term survival outcome^[8-13]. The increasing evidence based on the local tumor recurrence and survival rates supports the use of local excision as a primary treatment modality in the selected patients^[14-18].

The aim of the present study was to review our experience in the local excision of the early rectal cancers and to assess the validity of this therapeutic strategy as an effective treatment alternative to radical resection.

MATERIALS AND METHODS

Materials

Forty-seven 47 patients with early stage low rectal carcinomas were treated by local excision from November 1980 to November 1999 at the Department of General Surgical Oncology, Cancer Hospital of Chinese Academy of Medical Sciences (CAMS). They were 23 male and 24 female and with an average age 57 years (ranging from 31 to 80 years). The rectal carcinomas were located 3 to 8 cm from the anal verge (Table 1).

Table 1 Patient and treatment characteristics (n=47)

Characteristic	No. patients
Sex	
Male	23
Female	24
Surgical margin	
Negative	45
Positive	2
Radiotherapy	
No	31
Yes	16
T stage	
T1	36
T2	11
Grade	
Well differentiated	22
Moderately differentiated	23
Poorly differentiated	2
Surgical Procedure	
Transanal excision	40
Trans-sacral excision	5
Trans-vaginal excision	2

Treatment

Patients were treated by either transanal (40 cases), trans-sacral (5 cases), or trans-vaginal (2 cases) excision of tumors, in which 16 patients received postoperative radiotherapy.

Pathological diagnosis

All available pathohistological sections were reviewed by a single pathologist to assess the depth and extent of tumor invasion, the lymphocytic infiltration, mucinous status, and the degree of tumor differentiation. The tumor was staged according to the American Joint Committee on Cancer Staging System (AJCC1996).

Statistical analysis

The end points of this study were local and distant tumor recurrence and patient survival. Obtained data were analyzed using the Statistical Package for the Social Sciences (Release 11.0, SPSS, Inc). Survival curves were estimated using the Kaplan-Meier method and were compared using the log-rank test. Significance was defined as $P < 0.05$.

RESULTS

There was no death related to surgery. The most severe complication was the fistula formation, which was necessitated to perform a temporary diverting colostomy in two patients treated with trans-sacral excision. Other complications included bleeding in 2 patients and anal stricture in one patient (Table 1).

The median tumor diameter was 2.0 cm (ranging from 0.4 to 3 cm). Thirty-six patients (76.6 %) had T1 and 11 patients (23.4 %) had T2 lesion. The resected tumors in most cases were well or moderately differentiated, poorly differentiated were only seen in two patients. For those pathological sections were available, intravessel tumor thrombosis was identified in 10 patients (21.3 %) and lymphocytic infiltration in 8 patients (17.0 %). Tumor cells appeared on the surgical incisional margin were negative in 45 patients (95.7 %) and positive in 2 cases (4.3 %).

The average time for follow-up survey was 53 months. The overall local tumor recurrence rate was 14.9 % (7 patients) with the median recurrence time of 21 months (ranging from 12 to 48 months) postoperation. Among those with local recurrence, T1 and T2 tumors were found in 4 and 3 cases respectively. Five patients had immediate reoperation (APR or anterior resection). Both of the two patients with tumor cell positive incisional margin developed local recurrence. The overall 5-year survival rate was 91.7 %, in which there were 94.4 % for T1 and 83.3 % for T2 tumors.

T stage, intravessel tumor thrombosis, lymphocytic infiltration, histological grade and mucinous differentiation were not found to be significant predictors for local tumor recurrence and survival ($P > 0.05$).

DISCUSSION

Abdominoperineal resection, the mainstay of treatment for rectal cancer nowadays, has been reported bearing a death rate of 2.3 % to 3.2 % and 30 % to 46 % postoperative complications in the patient. permanent colostomy, urinary and sexual dysfunction are common sequelae of radical proctectomy that impair seriously affecting the patient's quality of life^[14]. In the past, local excision was performed only if the patient was in poor medical condition or refused to have a colostomy. Recent data suggest that the combination of local excision and postoperative chemo-radiation therapy may be an option for some patients with early stage rectal cancer. Encouraging results of local treatment of early rectal cancer and the development of new diagnostic technology providing accurate preoperative staging have greatly increased the interest of surgical oncology in this therapeutic strategy^[14-19].

However, broad acceptance of local excision as the primary treatment rectal cancer has been limited by the high local tumor recurrence that was difficult to be interpreted because the

literature was dominated by retrospective analyses of heterogeneous groups of patients. Included the patients with the tumors undifferentiated and penetrating the perirectal fat, with questionable or even positive tumor cell incisional margins, or with different surgical approaches, even palliative surgery^[20,21]. Besides specific reference was not always made to the lymphatic and blood vessel invasion, and the role of salvage surgery after failed local excision has also not been clearly stated^[22-26]. Therefore, There is an almost uniform agreement at present that only the well- or moderately differentiated T1 and T2 tumors, without blood vessel or lymphatic invasion or mucinous components could be treated by local excision with curative intent.

The present study there was no death related to the surgery, postoperative mortality. Complications occurring more and with a minimal in patients treated with trans-sacral excision was the fistula that was necessitated to perform a temporary diverting colostomy in two patients. Transanal excision was associated with less morbidity than any other local excision procedures.

Our data suggested that longer follow-up was necessary to identify those who would have a relapse, as shown by the fact that the median time for the local tumor recurrence in our study was about 21 months, with a range of 12 to 48 months postoperation. Recurrence rates were 11.1 % and 27.3 % in T1 and T2 tumors, respectively, which suggested that T stage was an important factor affecting recurrence.

The fact that both of the 2 patients with tumor cell positive incisional margin developed local recurrence suggested that tumor-free incisional margin and completely tumor excision was crucial for the prevention of local tumor recurrence, which was difficult to achieve for T3 lesion because the tumor had invaded the perirectal fat or anal sphincter. Therefore, if a tumor cell negative incisional margin could not be achieved in the operation, the patient was not considered as a good candidate for the local excision^[27,28]. Statistical analysis showed that intravessel tumor thrombosis, lymphocytic infiltration, histologic grade and mucinous differentiation were not found to be the significant predictors for the local tumor recurrence and survival ($P > 0.05$).

In summary, on the basis of our retrospective data, the sphincter-preserving local excision can be used as one of the primary surgical treatment methods for the early-stage low rectal cancer with minimal morbidity and mortality.

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