

Prognostic evaluation of pT1 and pT2 colorectal cancer

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SUMMARY: Prognostic evaluation of pT1 and pT2 colorectal cancer.

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Authors analyze the characteristics of the stage pT1 and pT2 colorectal cancer and carry their experience on 68 patients operated.

The survival of the colon carcinoma has been of 91% to 2 years and 88% to 5 years, while for the rectum has been of 90% to 2 years and 84% to 5 years. The attitude of the Authors has been to perform radical surgery. Lymph node metastases has been taken like only survival predictive factor while the CEA has diagnostic value of recurrence.

RIASSUNTO: Valutazioni prognostiche nel cancro coloretale pT1 e pT2.

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Gli Autori analizzano gli aspetti prognostici del cancro coloretale pT1 e pT2 ed esaminano la loro esperienza su 68 pazienti operati.

La sopravvivenza nei pazienti operati per neoplasia del colon è stata del 91% a 2 anni e dell'88% a 5 anni mentre per quelli operati sul retto è stata del 90% a 2 anni e dell'84% a 5 anni. L'obiettivo degli Autori è stato in ogni caso la radicalità chirurgica. La presenza o meno di metastasi linfonodali è stata valutata come fattore predittivo mentre il CEA (antigene carcinoembrionario) è stato preso in considerazione come indice predittivo di recidiva. Gli Autori espongono i risultati ottenuti.

KEY WORDS: Colorectal cancer - Lymph node metastases - Surgery - Prognosis.
Cancro coloretale - Metastasi linfonodali - Chirurgia - Prognosi.

Introduction

Colorectal cancer is a major cause of death in Western countries (Europe and United States) (1). In Asian countries, e.g. Hong Kong, it is the second leading cause of death (2). The prognosis of colorectal cancer is related to the stage of the disease and the decision of a potential, invasive examination is contingent upon a colorectal staging system. Tumours within the intestinal wall (T1 and T2) are generally considered to be early cancer. The prevalence of T1 and T2 cancers has been assessed in a number of publications that showed 12% of colorectal tumours removed by endoscopic polypectomy and 10% by radical surgery (3-5).

Patients diagnosed with T1 and T2 colorectal

cancer are believed to have a good prognosis. However, possible local relapses, especially of rectal cancers, or even distant metastases are still present. Indeed, the prognostic survival and/or relapse factors in patients with T1 and T2 stage cancers are not yet well defined.

The purpose of this study has been to analyze the characteristics of pT1 and pT2 stage colorectal cancer and to determine the risk factors that may affect the survival of or relapse in patients with colorectal cancer at this stage treated with radical surgery.

Patients and methods

From January 2001 to December 2005, we operated on 68 patients (36 men and 32 women) with pT1 and pT2 cancer. The study excluded patients with family polyposis, intestinal inflammatory disorders, synchronous or metachronous tumours, with post- palliative resection status. The diagnosis of colorectal neoplasia followed a colonoscopy with biopsy.

Patients underwent surgical resection in laparotomy or laparoscopy. Hemicolectomy or colon resection (in laparotomy or laparoscopy) was performed with lymphadenectomy according to onco-

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logical principles. For middle or low rectal tumours, a mesorectomy was performed according to the classic surgery technique described by various Authors (6-8). The surgical specimen is examined according to the guidelines of AJCC (American Joint Committee on Cancer) and UICC (International Union Against Cancer).

In the first two years, the patients were followed up every 2-3 months, and every 4 months in the third year. Subsequently, the patients were followed up annually. The follow-up consisted of anamnesis, physical exam, blood tests, and CEA test. The colonoscopy was performed at regular intervals. For rectal cancer, a digital rectal examination was performed at each visit to detect possible anastomotic stenosis or local recurrence. For suspect recurrences, endoscopy and CT scan were performed.

Results

This study enrolled 68 patients (36 men and 32 women). The mean age was 58 years (range 38-79). Of the 68 patients, 23 had a T1 and 45 a T2 tumor. Within T1 tumours we found a rectal localization in 15 patients and a colon localization in 8 patients; within T2 tumours we found a rectal localization in 21 patients and a colon localization in 24 patients.

All patients were treated surgically with radical resection and intent to treat. The margin sections of all resections were tumour-free. In Table I, gender, age, localization, histological type differentiation, lymph node status, follow up average time, survival at 2 and 5 years were compared in patients with T1 and T2.

Both genders were similarly represented: 18 men and 14 women had colon cancer, while 18 men and 18 women had rectal cancer; the mean age for colon cancer was 46 (range 38-67 years) and 61 (range 42-79 years) for rectal cancer.

The lymph node metastases were few both in colon cancer (9) and in rectal cancer (10).

The percentage of survival at 2 and 5 years was rather high: 91% at 2 years and 88% at 5 years for colon cancer, 90% at 2 years and 84% at 5 years for rectal cancer. Average follow up was 47 months for the colon and 42 months for the rectum.

Three patients died in the immediate postoperative for non tumoral pathologies and were not included in this study. No significant differences in survival were observed for each type of tumour.

With reference to the rectal cancer group, we had 10 patients with tumour of the rectal sigmoid junction, 18 patients with tumours of the middle rectum and 8 patients with tumour of the low rectum. No particular statistical difference was reported in the percentage of survival at 2 and 5 years.

As Table 1 shows, among colon cancer patients 5 had tumour with lymph nodes metastases and, among rectal cancer patients, 8 had lymph node metastases. No significant difference was reported in survival at 2 and 5 years among the two groups of patients.

TABLE 1 - RESULTS

| | Colon | Rectum |
|------------------------------|------------|------------|
| T1, n (%) | 8 (35%) | 15 (65%) |
| T2, n (%) | 24 (53%) | 21 (47%) |
| Mean age (years) | 46 (38-67) | 61 (42-79) |
| Gender | U 18/D 14 | U 18/D 18 |
| Lymph node metastases, n (%) | 5 (15%) | 8 (22%) |
| Survival at 2 years | 91% | 90% |
| 5 years | 88% | 84% |
| Histology, n | | |
| Differentiated | 20 | 18 |
| Non-differentiated | 10 | 15 |
| Mucinous | 2 | 3 |
| Follow Up (months) | 47 | 42 |

Discussion

The colorectal intramural tumour (T1 and T2) is considered early and associated with a favourable prognosis. The presence of the tumour at the mucosa level or the invasion of the submucosa clearly can produce a higher possibility of lymph node metastases, though the percentage of lymph nodes affected is rather low (15%-22%). Sitzler et al. in a Singapore study has reported a similar incidence of lymph node metastases in T1 (5.7%) and T2 (19.7%) (11-14).

The incidence of lymph node metastases in T1 cancers appears to be low also with incidences of 8%-16% reported in other studies (15-17). This is due probably to the low number of lymph nodes examined in T1 tumours, as also the small number of lymph nodes found in T2 cancer patients. Kawamma et al. (13) show that 92% of patients with lymph node metastases in T1 colon cancer has only a potential risk of cancer dissemination.

Thus, clearly the invasion at lymph node level is lower in early cancer and the prognosis is favourable especially if a radical surgery with lymphadenectomy is performed (18).

In the literature we have noted that many studies have examined the presence of lymph node metastases as a predictive factor (19-20). In our study, the correlation between lymph node metastases and survival at 2 and 5 years shows that lymph node invasion is strictly related to survival. Okabe et al. also demonstrated that lymph node metastases were significantly more common in the rectum (15%) than in the left (8%) or right colon (3%). These varying percentages may be the

result of differences in population of patients at various institutions. In our study, the survival at 2 and 5 years is 91% and 88% for colon cancer, while for the rectal cancer is, respectively, 90% and 84%. We don't find any difference of survival between T1 and T2.

The type of intramural invasion did not change the oncological approach, and a radical exeresis was always performed. The presence of metastatic lymphadenopathies was taken as the only predictive outcome factor. Other factors, e.g., histology, were not found to have much weight as a predictive factor.

In our study, the number of lymph nodes examined did not have an impact on survival. This is in contrast with other studies that showed that the prognosis would depend on the number of lymph nodes examined (21). According to Way et al., the number of lymph nodes affected, along with the patient's

age, were significant factors for the patient's survival.

Some authors place as significant factors for survival the presurgical CEA values and the patient's gender (22-23). For us, according to oncologists at international level, the CEA must be examined as a predictive of recurrence and not as a diagnostic tool, we have examined the CEA presurgically just to obtain a value at this stage. The gender is also not significant for us.

In conclusion, the incidence of lymph node metastases in patients with pT1 and pT2 cancer is important as predictive factor for survival and recurrence. Neither the lymphovascular permeation nor the CEA are factors that may affect survival. Clearly, radical surgery, even with T1 and T2 cancer is fundamentally and must always be ensured. The presence of metastatic lymphadenopathy is one further reason to require a throughout follow up.

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