Long-term Prognosis for Colon Cancer Related to Consistent Radical Surgery: Multivariate Analysis of Clinical, Surgical, and Pathologic Variables

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Abstract. Despite the improvement in its prognosis in most Western countries, death from colon cancer is still a major problem. In a prospectively planned observation study, a large patient collective from a single institution in Austria was analyzed in terms of the surgical approach and factors influencing survival. A total of 696 patients with colonic carcinomas were admitted to our surgical department between January 1, 1984 and December 31, 1997. Radical surgery for localized tumors was consistently performed, including wide resection margins and complete removal of the regional lymph drainage zones. Clinical, histopathologic, and therapy-related factors were examined for their influence on long-term survival by means of univariate and multivariate analysis. The overall tumor resection rate was 99.3% (691/696); complete tumor removal (R0) was possible for 84.8% (590/696) of all patients. The overall postoperative hospital mortality rate was 3.2% (22/696), and it was 1.3% (7/556) for potentially curative resections. Five- and ten-year tumor-specific survival rates for stage I to III R0 resections were 83.8% and 78.8%, respectively. Adjuvant chemotherapy reduced tumor recurrence for stage III patients by 52.4%. The depth of tumor infiltration, lymph node status, and adjuvant chemotherapy were found to have an independent influence on survival as identified by the Cox models. In conclusion, a consistent radical surgical approach for potentially curative resected colonic cancer patients had survival rates that surpassed those of most published series without sacrificing low complication rates. In addition, adjuvant chemotherapy for stage III substantially improved survival.

Although colorectal cancer must be seen as a tumorous biologic entity, the prognosis for colon cancer and rectal cancer individually differs considerably. The most important reason is certainly the great difference in locoregional tumor failure, which is significantly higher for rectal cancer. Whereas wide resection margins are always possible for colonic tumors, lateral margins of clearance for rectal carcinomas are often limited because of the anatomy of the small pelvis. In addition, adjuvant therapy regimens for colon cancer and rectal cancer differ substantially, another reason treatment results for colonic cancer and rectal cancer should be evaluated separately. Surgical management for colon cancer must take into consideration the anatomy of the lymphatic system, where it is necessary to remove all possible tumor-bearing tissues. Based on the International Union Against Cancer (UICC)/American Joint Committee on Cancer (AJCC) tumor stage [1–5], complete tumor removal (R0 resection) [1–7] is essential for local tumor control and long-term survival.

The comparatively large series reported herein of a homogeneous group of patients with only colon cancer is suitable for evaluating the influence of various prognostic factors on local recurrence and long-term survival. Prognostic factors were evaluated in univariate and then multivariate analyses. This prospectively planned observation study, where radical surgical methods for localized tumors were used, can provide details on complication rates, postoperative mortality, and long-term survival in connection with colon cancer. It seems essential to be able to define groups of patients at high risk operated on using a uniform, specific surgical approach to estimate the value of adjuvant therapy regimens.

Patients and Methods

Between January 1984 and December 1997 a total of 696 patients were operated on for colon cancer. The median age of the patients was 68 years (range 21–92 years). There were 372 men and 324 women. A radical surgical approach was prospectively planned and consistently performed from the beginning of 1984 onward for all colon cancer patients admitted to our surgical department, provided clinical or intraoperative staging revealed a localized tumor stage whereby wide resection margins and excision of the corresponding lymph drainage zone, including lymph nodes along the large vessels (N3 lymph nodes according to the former pN category of the UICC/AJCC) were included. Most patients ($n = 609$) were operated on by two senior surgeons, the remaining patients usually having early stage tumors on which junior surgeons operated under supervision in connection with the radical surgical technique.

Colon cancer was defined as a tumor located in the large bowel more than 16 cm from the anal verge. Carcinomas of the rectum and appendix, carcinomas in situ, and malignant tumors other than adenocarcinomas were excluded from this study. Synchronous carcinomas ($n = 33$), metachronous carcinomas ($n = 37$),

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and carcinomas arising in familial adenomatous polyposis ($n = 2$) or ulcerative colitis ($n = 1$) were included. Seven patients with sessile adenomas treated by snare polypectomy were included in this study because subsequent histologic examination revealed invasive cancer requiring radical tumor resection. Synchronous carcinomas were staged according to the more advanced tumor. Emergency operations were defined as cases operated on within 24 hours of admission because of tumor occlusion. All other patients were considered for elective operative procedures after bowel preparation with saline solution and single-shot or short-term antibiotic prophylaxis.

The extent of the resection depended on tumor localization, tumor size, and histologic tumor grading. Tumors located in the cecum, ascending colon, descending colon, or upper and middle thirds of the sigmoid colon were surgically treated by means of a typical right- or left-side hemicolectomy. The surgical procedure for sigmoid carcinomas located in the lower third was anterior resection. Resection was extended to both neighboring lymph drainage zones for flexure carcinomas. In the case of transverse colon cancer, either a typical transverse colon resection including both flexures was done or if tumors were of high grade and clinically classified as T3 or T4 the resection was extended to the right colic artery and inferior mesenteric artery, leading to a subtotal colectomy with resulting ascendensorectostomy. Resection was performed en bloc with the primary tumor for actual or apparent adjacent organ involvement.

For synchronous, resectable liver metastases and in two cases for solitary lung metastases, a simultaneous resection was performed. Although all of these cases could have R0 resections with tumor-free margins, these procedures were excluded from the univariate and multivariate analyses for various reasons. Even when liver metastases are resectable they must be considered as tumor dissemination with a mean survival rate of about 20% to 25% at 5 years or 14% to 15% when calculated to be tumor-free [8, 9]. In addition, synchronous liver metastases have a much worse prognosis than metachronous ones, and simultaneous liver resection is not generally considered the treatment of choice. The UICC/AJCC staging system does not define stage IV R0 resectable tumors. For this reason survival rates for those with simultaneously resected liver metastases were analyzed separately.

Emergency operations due to tumor obstruction of the large bowel, including the descending colon, were treated by radical resection of the tumor with complete removal of the distended colon. More distally located tumors leading to obstruction were treated by radical resection after performing an on-table lavage. The surgical procedures performed are listed in Table 1.

Tension-free anastomoses and a good blood supply were prerequisites for surgery. Anastomoses were established by single-layer hand-sewn techniques or by stapling devices, usually performed in an end-to-end fashion. For disseminated tumors, which is not the topic of this paper, the surgical procedure of choice was tumor resection to prevent later tumor complications, such as obstruction, perforation, or bleeding.

Details of the surgical procedures, the histopathologic parameters of the tumors according to the World Health Organization (WHO) [10] and UICC/AJCC [1–5], and the follow-up data were documented consistently and collected in a file. The last evaluation of the follow-up data took place in June 1998. The mean follow-up for patients with R0 resections was 58.8 months (SE $\pm$ 2.1). Only one patient was lost to follow-up.

Table 1. Surgical procedures according to the UICC/AJCC R-classification.

Procedure	R0 (no.)	R1 (no.)	R2 (no.)	Total No.	Total %
Anterior resection	86	1	7	94	13.5
Left hemicolectomy	194	3	35	232	33.3
Extended left hemicolectomy	5	—	—	5	0.7
Transversum resection	11	—	—	11	1.9
Right hemicolectomy	165	2	24	191	27.3
Extended right hemicolectomy	48	1	4	53	7.6
Subtotal resection	81	2	7	90	12.9
Segmental resection	—	—	12	12	1.6
Hartmann procedure	—	—	2	2	0.3
Other palliative procedures	—	—	6	6	0.9
Total	590	9	97	696	100.0

UICC/AJCC: International Union Against Cancer/American Joint Committee on Cancer.

No neoadjuvant therapy was provided. Adjuvant chemotherapy similar to the recommendations of the National Institutes of Health (NIH) consensus conference [11, 12] was offered to 79 stage III patients after August 1990 and to 49 stage II patients from 1991 onward; both trials were part of a prospective, randomized Austrian multicenter study supervised by the Austrian Society of Surgical Oncology (ACO). For stage III tumors, patients were randomly selected for a one-year regimen of 5-fluorouracil (5-FU) alone or a combination of 5-FU with levamisole or interferon (or both). For stage II tumors, adjuvant therapy with 5-FU in combination with low-dose leucovorin was compared with surgery alone. Follow-up was carried out in our department or by some selected outside gastroenterologists in cooperation with the hospital.

Statistical Analysis

Data were analyzed using the EGRET software package (Statistics and Epidemiology Research Corporation, Seattle, WA, USA), and survival and recurrence rates were calculated according to the Kaplan-Meier model [13]. In addition to observed survival rates, tumor-specific survival rates were computed to identify the variables that influence survival more precisely. Prognostic variables were initially analyzed with the log-rank test [14] and then entered into the Cox proportional hazards regression models [15] to identify factors with an independent prognostic influence on survival. The stability of the model was guaranteed using a step-backward and step-forward fitting procedure.

With the step-backward approach, the least significant variable was repeatedly eliminated after the initial simultaneous analysis until a core of variables remained with independent influence. In the step-forward approach, factors were entered into the multivariate analysis based on their significance in the log-rank test. The next most significant factor was always added to the model, and nonsignificant factors $p > 0.05$) were eliminated. The variables identified as having an independent influence on survival were identical, regardless of the fitting procedure.

Results

The overall tumor resection rate was 99.3% (691/696), and the R0 resection rate was 84.8% (590/696). For 97 patients (13.9%), only

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Table 2. Postoperative complications with resulting relaparotomy and mortality for curative and palliative resections.

| Complication	Curative resection (R0) (n = 590)			Palliative resection (R1, R2) (n = 100)		
	No.	Relaparotomy	Deaths	No.	Relaparotomy	Deaths
Wound infection (requiring intervention)	10	6	0	3	2	0
Anastomotic leakage	10	2	0	3	2	2
Hemorrhage	5	5	0	3	3	1
Antibiotic colitis	1	0	0	0	0	0
Acute cholecystitis	1	1	0	0	0	0
Ileus	4	4	0	0	0	0
Cardiac insufficiency	4	0	3	8	0	6
Pulmonary insufficiency	8	0	1	3	0	2
Urinary complications	5	2	2	0	0	0
Hepatorenal syndrome	2	0	2	0	0	0
Pancreatogenic abscess	6	1	0	2	0	0
Thrombosis of the superior mesenteric vein	1	1	1	1	1	1
Cerebrovascular accident	3	0	0	0	0	0
Esophageal hemorrhage	1	0	1	0	0	0
Total	61	22	10	23	8	12
%	10.3	3.7	1.7	23	8	12

R2 resection (macroscopic residual tumor) was possible; and for nine patients with R0 resection (1.5%) histologic examination revealed a definite R1 resection (microscopic residual tumor). For six patients (0.8%), an exploratory laparotomy or a bypass operation was the only surgical option. For 148 patients (21.3%) the colonic resection was extended because the tumors were located at border zones (e.g., flexure carcinomas or carcinomas located in the transverse colon) or they were leading to large bowel obstruction. For 31 R0 resections (5.2%), the resections were extended to adjacent organs and for 18 of these patients the suspected tumor involvement was certified histologically. Synchronous liver metastases in 34 patients (4.9%) and solitary lung metastases in 2 patients (0.3%) were resected simultaneously with the primary tumor; all of them showed tumor-free resection margins. Protective colostomies for anterior resections due to distal sigmoid colon cancers were placed in five patients (0.7%). Protective colostomies for emergency procedures were performed in two cases (0.3%). Emergency surgery was performed for 38 patients (5.5%), 23 of whom were treated with a one-step subtotal colectomy; on-table lavage was performed in 9 patients.

The median number of blood units required for tumor resection was 1.7 (range 0–30). The mean operative duration was 150 minutes for resection, 146 minutes for radical resection, 197 minutes for extended colonic resection, and 203 minutes for multivisceral resections. The median number of lymph nodes examined for R0 resections was 20.5 (range 1–69).

Morbidity and Mortality

The postoperative hospital mortality rate was 3.2% (22/696). The rate was 1.7% (10/590) for R0 resections and 12.0% (12/100) for R1/R2 resections. Two of the six patients undergoing palliative procedures died postoperatively. The figures for postoperative morbidity, relaparotomy, and death related to specific surgical procedures are shown in Table 2. For extended colonic resections (n = 148) the postoperative complication rate was 18.2% (27/148) and the postoperative mortality rate 1.4% (2/148). No patient was transferred to another hospital because of complications.
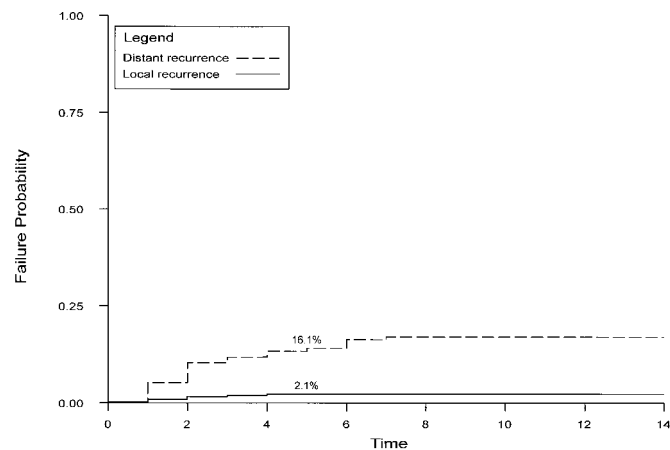
Fig. 1. Local and distant recurrence curves for stage I to III R0 resections (n = 556) with 5- and 10-year recurrence rates.

Local Recurrence

The 5-year local tumor recurrence rate for R0 stage I to III resections was 2.1% (± 0.74% SE); distant tumor recurrence occurred in 16.1% of these patients (± 2.0% SE) (Fig. 1). The 5-year tumor recurrence for stage III patients receiving no chemotherapy was 37.8% (± 4.9% SE) compared to 18.0% (± 5.2% SE) for patients receiving adjuvant chemotherapy (p = 0.031) (Fig. 2), corresponding to a reduction of 52.4%. For stage II patients it was 2.7% (± 2.6% SE) compared to 14.9% (± 3.4% SE) (p = 0.09). Simultaneously resected synchronous liver metastases recurred in 69.8% of cases.

Survival

The 5- and 10-year observed survival rates (postoperative deaths not excluded) for all patients using the Kaplan-Meier method were 61.8% (± 2.3% SE) and 46.0% (± 3.4%), respectively. For curatively operated stage I to III patients (R0), the 5- and 10-year
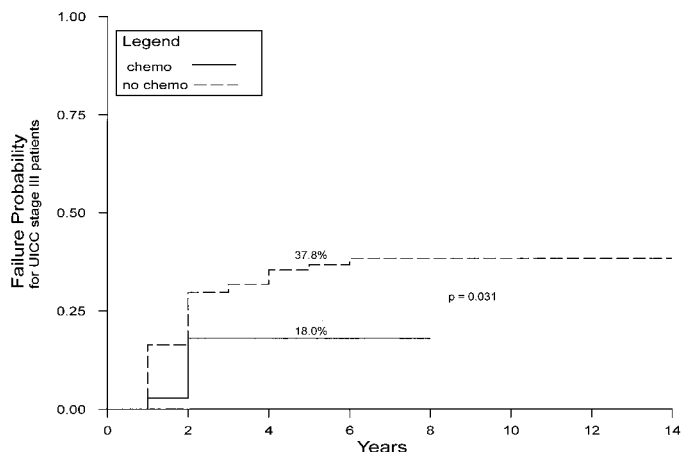
Fig. 2. Tumor recurrence curves for stage III patients with or without adjuvant chemotherapy (*n* = 205).
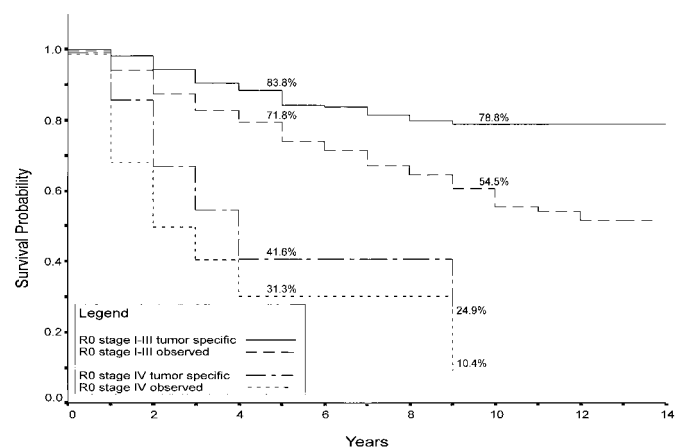

Fig. 3. Observed and tumor-specific survival curves for stage I to III R0 resections (*n* = 556) and stage IV R0 resections (*n* = 34) with 5- and 10-year survival rates. (For stage IV only 9-year survival rates were available because at 10 years no one was at risk.)

Table 3. Univariate analysis of clinical variables in terms of 5- and 10-year tumor-specific survival using the long-rank test for 556 stage I to III R0 resections.

Variable	No.	%	Survival (%) 5-Year	10-Year	p
Age (years)					
<65	196	35.3	87.9	83.8	0.113
≥65, <80	287	51.6	79.9	73.9	
≥80	73	13.1	90.5	90.5	
Gender					
Male	287	51.6	83.4	77.4	0.968
Female	269	48.4	84.2	80.1	
Blood group					
A	224	40.3	80.1	74.0	0.738
B	73	13.1	84.1	84.1	
O	215	38.7	86.2	81.1	
AB	34	6.1	88.5	73.8	
X	10	1.8			
Preoperative Hb level (mg/dl)					
<10.0	63	11.3	86.9	86.9	0.367
≥10.0, <14.0	303	54.5	83.0	78.2	
≥14.0	170	30.6	86.0	77.5	
X	20	3.6			
Colonic cancer in first-degree relative					
Positive	87	15.6	85.7	85.7	0.795
Negative	463	83.3	83.4	77.7	
X	6	1.1			
Localization					
Sigmoideum	270	48.6	83.1	81.6	0.680
Descendens	16	2.9	81.7	81.7	
Left flexure	30	5.4	87.2	61.6	
Transverse colon	40	7.2	95.1	83.2	
Right flexure	42	7.5	81.1	75.5	
Ascendens	77	13.8	87.7	83.1	
Cecum	81	14.6	78.9	75.2	
Macroscopic growth type					
Polypous	229	41.2	85.7	84.0	0.181
Diffuse	324	58.3	82.9	75.9	
X	3	0.5			
Additional malignancy					
None	489	87.9	83.7	78.5	0.301
Synchronous	32	5.8	95.0	95.0	
Metachronous	35	6.3	78.6	72.1	

X: unknown cases.

observed survival rates were 71.8% (± 2.4%) and 54.5% (± 3.8%), and the tumor-specific survival rates were 83.8% (± 2.1%) and 78.8% (± 2.7%) (Fig. 3). The values for patients undergoing surgical therapy exclusively were 69.4% (± 2.7%) and 52.7% (± 3.9%) observed, with 82.8% (± 2.3%) and 77.8% (± 2.8%) tumor-specific. Patients with simultaneously resected liver metastases had a 5-year observed survival rate of 31.3% (± 9.6%) and a 5-year tumor-specific survival of 41.6% (± 11.9%); at 10 years none was at risk. The median survival time for R1/R2 resections and primary palliative procedures was 11 months (Fig. 3). The 5- and 10-year tumor-specific survival rates according to clinical, therapy-related, and histopathologic variables are shown in Tables 3, 4, 5, respectively.

Survival Analysis

With univariate analysis, tumor stage, pT category, former and new pN category, number of positive lymph nodes, tumor grade, microscopic lymph or blood vessel invasion, and adjuvant chemo-

therapy for stage III patients were found to have a significant influence on survival (Tables 4, 5). When entered into the multivariate analysis, however, only a high pT category, an increasing number of positive lymph nodes, and adjuvant chemotherapy had independent influence on survival (Table 6).

Discussion

Although colon cancer and rectal cancer must be viewed as a tumorous biologic entity, it nevertheless seems worthwhile to separate these tumors because of their differences in prognosis, local recurrence, and adjuvant therapy regimens. Unfortunately, most papers dealing with colon cancer do not distinguish between colon cancer and rectal cancer. In addition, there are great variations in patient selection and surgical radicality (which usually is

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Table 4. Univariate analysis of therapy variables in terms of 5- and 10-year tumor-specific survival using the long-rank test for 556 stage I to III R0 resections.

Variable	No.	%	Survival (%) 5-Year	Survival (%) 10-Year	p
Extended colonic resection					
Yes	120	21.6	85.5	69.8	0.937
No	436	78.4	83.4	80.2	
Emergency procedure					
No	518	93.2	84.2	79.5	0.289
Yes	38	6.8	77.9	70.1	
Duration of operation (minutes)					
≤120	197	35.4	78.8	77.2	0.131
>120, ≤180	262	47.1	88.9	82.0	
>180	91	16.4	80.6	71.7	
X	6	1.1			
Blood units required					
0	150	27.0	78.0	75.6	0.135
1–3	344	61.9	86.8	79.8	
>3	38	6.8	73.9	73.9	
X	24	4.3			
Surgeons involved					
Senior	484	87.1	83.4	78.2	0.408
Junior	72	12.9	89.4	89.4	
Chemotherapy stage II (n = 213)					
Yes	49	23.0	97.3	None at risk	0.201
No	164	77.0	85.5		
Chemotherapy stage III (n = 205)					
Yes	80	39.0	82.8	None at risk	0.041
No	125	61.0	65.4		

Table 5. Univariate analysis of pathologic variables in terms of 5- and 10-year tumor-specific survival using the long-rank test for 556 stage I to III R0 resections.

Variable	No.	%	Survival (%) 5-Year	Survival (%) 10-Year	p
Microscopic vessel invasion					
Negative	277	49.8	88.6	86.0	< 0.001
Positive	273	49.1	78.4	69.0	
X	6	1.1			
UICC/AJCC stage					
1	140	25.2	98.9	93.9	< 0.001
2	211	37.9	87.2	80.7	
3	205	36.9	70.1	66.2	
pT category according to UICC/AJCC [3, 5]					
1	69	12.4	100.0	92.6	< 0.001
2	100	18.1	89.8	87.2	
3	341	61.3	81.3	75.1	
4	46	8.2	62.9	62.9	
Former pN category according to UICC/AJCC [1, 4]					
0	351	63.1	91.7	86.1	< 0.001
1	132	23.7	73.8	67.8	
2	49	8.8	57.8	57.8	
3	24	4.4	84.9	None at risk	
Tumor diameter (mm)					
<45	294	52.9	84.0	80.0	0.484
≥45	248	44.6	82.9	76.6	
X	14	2.5			
New pN category according to UICC/AJCC [3, 5]					
0	349	62.8	91.7	86.0	< 0.001
1–3	136	24.5	75.3	68.4	
>3	64	11.5	58.7	58.7	
X[a]	7	1.3			
Grade					
High	490	88.1	86.0	80.4	0.001
Low	66	11.9	66.0	66.0	

[a]Seven cases were categorized under the former pN classification, but the precise number of positive lymph nodes was not stated.

Table 6. Multivariate analysis of clinical, pathologic, and therapy variables.

Variable	Hazards ratio	p
Increasing pT category	1.993	0.001
Increasing pN category UICC/AJCC [3, 5]	2.107	< 0.001
No chemotherapy	2.495	0.025

Tumor stage was excluded from the pathologic variables because it is directly dependent on pT category and pN category.

not stated precisely enough), the number of surgeons involved, and the methods for calculating survival and local failure.

In this single-institution series of 696 colon carcinomas operated on between 1984 and 1997 using a consistent, uniform radical surgical approach, long-term results in connection with low postoperative mortality and morbidity can demonstrate impressively the effectiveness and limits of high-standard surgery for tumor eradication of colon cancer. Data in this series concerning gender, peak age, tumor location, and stage distribution are comparable to those of most other series [16–23]. The overall tumor resection rate of 99.2% and the R0 resection rate of 84.8% in this series is higher than reported by most authors [18–21, 24–26], whereas the frequency of emergency operations was relatively low (5.5%) compared with other reports in the literature [25]. Curative resection, even when the abdominal wall or adjacent organ invasion is involved, is most effective in preventing local tumor failure [18, 19, 25, 27–29]. A meticulous tissue-sparing surgical technique and tension-free anastomoses with a good blood supply are prerequisites for low leakage rates, low complication rates, and low postoperative mortality. Postoperative complications and postoperative mortality in this series are low but comparable to the findings of many previous reports [18–21, 25, 27–31].

Along with the tumor resection rate, R0 resection rate, and postoperative mortality and morbidity, the efficacy of radical surgery for colon cancer must be measured by the frequency of local recurrence and by long-term survival. Certainly R0 resection is most effective in preventing local tumor failure. Wide resection margins combined with removal of the entire corresponding lymph drainage zone and prevention of any kind of tumor cell

dissemination are prerequisites for local tumor control. The local tumor failure rate of 2.1% in our series is low in comparison with literature reports [18–26]. Although we prospectively considered many clinical, histopathologic, and therapy-related factors for their possible influence on prognosis, most factors with a statistically significant influence in the univariate analysis lost their prognostic reliability when entered in the Cox models. With multivariate analysis, only the pT category and pN category corre-

sponding to the tumor stage were identified as having a statistically independent influence on survival alongside adjuvant chemotherapy.

In the German Study Group for Colorectal Carcinoma (SGKRK), multivariate analysis identified the R classification, stage, institution, and timing of surgery as independent prognostic factors in terms of survival. Study data varied substantially for the frequency of locoregional recurrence and survival among the participating institutions [25]. Tumor tearing or perforation and the frequency of emergency operations are other factors that increase the incidence of local recurrence and treatment failure [23, 32, 33].

The no-touch isolation technique employed for R0 resections in this series is considered a possible cause of reducing the frequency of liver metastases in some studies [28, 34, 35]. High ligation of the supplying vessels and removal of all potentially tumor-bearing lymph nodes along with the mesocolon seems necessary not only for adequate radicality but also for staging reasons. Another way to decrease local tumor failure is to consistently extend the resection to neighboring lymph drainage zones when tumors are located at border zones, such as the right or left flexure. As Hertzer and Slanetz [35] and Gall and Hermanek [36, 37] pointed out, tumors located at these border zones can metastasize in two or even three lymphatic regions, as in the case of a transverse colon carcinoma. Extending the colonic resection did not sacrifice the low complication rate in this series, and the survival rates for tumors located at border zones were just as good as those for other locations.

For patients with residual tumor disease (R1/R2), the prognosis remains poor, with a reported median survival of 10 to 11 months [6, 7]. The equivalent value in our series was 11 months. In view of the poor prognosis for R1/R2 resections and patients with tumor recurrence, it seems worthwhile to refer to studies that underline the influence of the surgeon and the institution, not only in connection with complete tumor removal but also the frequency of local recurrence and long-term survival [25, 38–40]. Consistent radical surgery in this series was not compromised by the training of young surgeons, as shown in Table 4.

In view of the impressive results achieved by the Intergroup Study and the strong recommendations of the NIH Consensus Conference in 1990 regarding chemotherapy for stage III patients [11, 12], it seemed unethical to have a control group with surgery alone in the Austrian multicenter study. For this reason the possibility of comparing stage III patients who were treated with surgery alone [41] in our series, although it was not randomized and prospective, with patients undergoing adjuvant chemotherapy seems to be of great interest, particularly as consistent radical surgery is the weak point in most large multicenter trials. Although the results for stage III patients achieved with surgery alone surpass most colon cancer reports, adjuvant therapy in this series significantly improved patients' outcome, similar to the results of the Intergroup Study. With adjuvant chemotherapy, tumor recurrence for stage III patients was reduced by 52.4%.

In conclusion, it must be stressed that consistent, uniform radical surgery performed in specialized centers can offer tumor eradication for most patients with potentially curative resectable colon cancers. For locally advanced tumor stages, adjuvant therapy must be viewed as an effective improvement in treatment today.

Resumé

En dépit de l'amélioration du pronostic dans la plupart de pays occidentaux, la mortalité en rapport avec le cancer du côlon est toujours un problème majeur. Dans une étude prospective, observationnelle, un groupe important de patients provenant d'une seule institution en Autriche a été analysé en termes de l'approche chirurgicale et des facteurs contribuant à la survie. Au total, 696 patients ayant un cancer du côlon ont été admis dans notre département de chirurgie entre 1/1/1984 et 31/12/1997. Dans tous les cas, on a pratiqué une chirurgie radicale pour les tumeurs localisées, y compris des marges de résection larges et une lymphadenectomie régionale étendue. On a examiné les facteurs cliniques, histopathologiques et thérapeutiques pour déterminer leur influence sur la survie à long terme par analyse uni- et multivariée. Le taux de résection globale a été de 99,2% (691/696) alors que la résection tumorale complète (R0) a été possible pour 84,8% (590/696) des patients. La mortalité globale postopératoire a été de 3,2% (22/696), et de 1,3% (7/556) pour les résections potentiellement à visée curative. Les survies tumeur spécifiques à 5 et à 10 ans pour les résection RO de stades I–III ont été de 83,8% et de 78,8%, respectivement. La chimiothérapie adjuvante pourrait réduire la récidive tumorale pour les patients du stade III par 52,4%. La profondeur d'infiltration tumorale, l'état ganglionnaire et la chimiothérapie adjuvante ont été tous des facteurs indépendants agissant sur la survie dans les modèles de Cox. En conclusion, une attitude radicale pour les patients ayant un cancer colique potentiellement curable est associée à un taux de survie qui dépasse la plupart de séries publiées sans compromettre le taux peu élevé de complications. La chimiothérapie adjuvante pour des cancers du stade III a beaucoup amélioré la survie.

Resumen

A pesar del progreso en el pronóstico del cáncer del colon logrado en la mayoría de los países occidentales, la mortalidad continúa siendo un grave problema. Con base en un vasto estudio prospectivo observacional en pacientes manejados en una sola institución, se hizo un análisis para Austria en términos del aproche quirúrgico y de los factores que inciden sobre la supervivencia. Un total de 696 pacientes con cáncer de colon fueron hospitalizados en nuestro servicio en el período entre enero 1 de 1984 y diciembre de 1997. Se practicó rutinariamente cirugía radical en los casos de tumores localizados, incluyendo amplios márgenes de resección y disección completa de las zonas de drenaje linfático. Se estudiaron los factores clínicos, histopatológicos y terapéuticos en cuanto a su efecto sobre la supervivencia a largo plazo por análisis uni y multivariado. La tasa global de resección del tumor fue 99.2% (691/698), en tanto que la tasa de resección completa del tumor (RO) fue 84.8% (590/696). La mortalidad postoperatoria global fue 3.2% (22/696), con 1.3% (7/556) en los casos de resección potencialmente curativa. Las tasas de supervivencia a cinco y diez años para los pacientes con resección I–III RO fueron 83.8% y 78.8% respectivamente. La quimioterapia logró reducir la recurrencia tumoral en los estados III en un 52.4%. Se encontró que la profundidad del tumor, el estado linfático y la quimioterapia adyuvante son factores que influyen en forma independiente sobre la supervivencia según el modelo de Cox. En conclusión, se

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establece que el aproche quirúrgico radical practicado en forma consistente en pacientes con cáncer del colon potencialmente curativo exhibe una supervivencia superior a la publicada en la mayoría de las series, sin perjuicio en cuanto a menores tasas de complicaciones. Además, la qumioterapia adyuvante en los estados III mejora sustancialmente la supervivencia.

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