Clinical Characteristics and Disease Outcome of UICC Stages I-III Colorectal Cancer Patients at Siriraj Hospital

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Background: *Colorectal cancer is the third most common cancer worldwide. There were only a few reports of disease outcomes in Thai. Therefore, the authors retrospectively reviewed the clinical characteristics and disease outcome of patients with curable colorectal cancer treated at Siriraj Hospital, the largest tertiary-care hospital in Thailand.*
Material and Method: *Medical records of colorectal cancer patients diagnosed at Siriraj Hospital between January 2003 and December 2007 were reviewed. The records of the patients presenting with stage I-III and had been follow-up for at least 2 years were explored. Clinical characteristics, including demographic data, primary tumor site, TMN staging, histopathology, and CEA level were described. Disease outcome including survival, recurrence of disease and complication were analyzed.*
Results: *One thousand forty-seven colorectal cancer patients were diagnosed and completely staged during the study period. The incidence of stage I-IV was 9%, 22%, 37% and 32%, respectively. Three hundred fifty-five patients with stage I-III colorectal cancer were analyzed. The ratio of male and female was 1.4:1. The median age was 59.8 years. Forty-eight percent and 52% of patients had colon and rectal cancer, respectively. The median follow-up time was 63.3 months. The mean time from diagnosis to surgery was 23 days. Two hundred forty eight patients (70%) received adjuvant or neoadjuvant chemotherapy with the majority receiving 5-fluorouracil and leucovorin. 5-year disease free survival rate in stage I-III was 90%, 85% and 58%, respectively and 5-year overall survival in stage I-III was 93%, 93% and 73%, respectively. Independent risk factors for disease-free survival were gender, preoperative CEA and stage; for overall survival were gender and stage.*
Conclusion: *Approximately two-thirds (68%) of patients with colorectal cancer at Siriraj hospital presented with a potentially curable stage. Multi-modality treatments with surgery, adjuvant chemotherapy and radiation resulted in comparable survival as in Western countries. Independent risk factors for worse survival in this cohort were stage III disease and male gender.*

Keywords: *Colorectal cancer, Disease outcome, Thailand*

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Colorectal cancer (CRC) is the third most common cancer and the fourth most common cause of cancer death in the world[1]. In Thailand, CRC has the fourth highest incidence behind liver, prostate, and lung cancer in males and the third highest incidence behind breast and cervical cancer in females[2]. Successful treatment of CRC requires a multidisciplinary team approach. During the past two decades, improvement of disease outcome has been made by integrating adjuvant chemotherapy which results in survival benefit in high risk stage II and III colon cancer[3-8]. Adjuvant chemotherapy and radiation following surgery also provides survival improvement in rectal cancer[9-11]. Unfortunately, there were only a few reports of disease outcome of Thai patients with CRC treated with a multi-modality approach. Siriraj Hospital is the largest tertiary-care hospital in Thailand where a huge number of cancer patients are diagnosed or referred for treatment. This provides an opportunity to conduct a retrospective review of a large cohort of CRC patients being treated with standard multi-modality treatment.

The purpose of the present study was to

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report the clinical characteristics and outcome including survival, recurrence of disease and treatment toxicity in patients with colorectal cancer treated at Siriraj Hospital. Prognostic factors for survival were analyzed using univariate and multivariate analysis.

Material and Method

This retrospective study was conducted by reviewing selected medical records of patients with colorectal cancer diagnosed and treated at Siriraj hospital between January 1, 2003 and December 31, 2007. Patients' medical records were selected by using ICD-10 coding from the hospital database. The authors collected all patients with complete records of pathological diagnosis of colorectal adenocarcinoma and staging at the time of diagnosis. In order to minimize the number of patients who were lost to follow-up, only patients who were treated and had a minimal follow-up time of two years were included in the present study. The present study was approved by Siriraj Institutional Review Board, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand.

Age, gender, co-morbidity, family history of cancer, location of primary tumor, date of diagnosis, type of surgery, date of surgery, treatment, adverse event, date of disease recurrence and date of last follow-up were collected. Staging was classified by AJCC/UICC TMN stage (v.3 2010). Definition of disease free survival (DFS) is the interval between the date of diagnosis and the date of disease recurrence or death; overall survival (OS) is the interval between the date of diagnosis and the date of death from any cause. The primary objective was to determine the incidence of each stage of colorectal cancer; the secondary objectives were to determine DFS and OS in stage I- III colorectal cancer patients, clinical characteristics, pattern of recurrence and toxicity of chemotherapy (using CTCAE v.3). Multivariate analysis was performed to study the association between any clinical factors and survival.

Statistical analysis

Subject characteristics and therapeutic outcomes were described using descriptive statistics, including frequency and percentage for categorical variables. Continuous variables were reported as mean, standard deviation of normally distributed variables and median, minimum and maximum where appropriate.

For between group comparisons, the authors used Chi-square test or the Fisher exact test for categorical variables and Student t-test or Mann-Whitney U for continuous variables. The Kaplan-Meier method of survival analysis was used to estimate survival and comparison between groups by log rank test. Differences between groups were considered significant for variables yielding a p-value < 0.1, which would be further analyzed in the multivariate predictors of survival, using the Cox proportional hazard regression. For all tests performed, a two-tailed p-value < 0.05 was considered as denoting statistical significance. The statistical software SPSS, version 10.0 was employed for all the analyses performed.

Results

Incidence per stage

Data was retrospectively collected from January 2003 through December 2007. There were 1,047 colorectal cancer patients with completed staging classified by stage (Fig. 1). The numbers of colorectal cancer patients from 2003-2007 were 155, 213, 211, 240, and 228, respectively. The incidence of stage I-IV was 9%, 22%, 37% and 32%, respectively.

Clinical characteristics

Three hundred fifty-five patients with stage I-III colorectal cancer who completed two years follow-up were analyzed. There were 210 males and 145 females with a median age of 59.8 years. The ratio of male and female was 1.4:1. One hundred seventy-two patients (48%) were diagnosed having colon cancer and 183 patients (52%) had rectal cancer. The primary site of colon cancer was as follows: sigmoid colon (38%), ascending colon (30%), descending colon (18%) and transverse colon (14%). Presenting symptoms and clinical characteristics of all patients are described in Table 1 and 2.

Chemotherapy

In the colon cancer group, 128 patients had high risk stage II and stage III disease. One hundred eleven patients received adjuvant chemotherapy, details of which regimen was used are described in Table 2. Seventeen patients (13%) did not receive adjuvant chemotherapy due to patient refusal (14), poor performance status (2), and other reasons (1).

In the rectal cancer group, 147 patients had stage II and stage III disease. One hundred and ten patients received adjuvant chemotherapy and radiation as detailed in Table 2. Twenty-two patients received neoadjuvant chemotherapy with 5-FU and radiation. The reasons for neoadjuvant chemoradiation were sphincter sparing surgery (15), T4 tumor (5) and

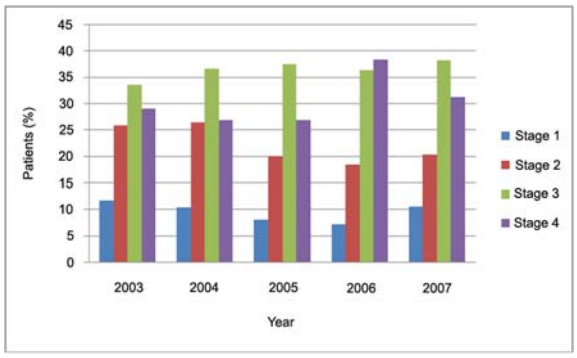


Fig. 1 Incidence of stage I-IV colorectal cancer at Siriraj hospital from 2003 to 2007

Table 1. Presenting symptoms of 355 patients with stage I-III colorectal cancer

Presenting symptoms	Colon cancer (%)	Rectal cancer (%)
Bowel habit change	24	20
Mucous bloody stool	12	29
Weight loss	18	15
Hematochezia	4	19
Gut obstruction or perforation	14	5
Abdominal pain	9	3.6
Abdominal mass	10	0
Iron deficiency anemia	7	1
Tenesmus	0	5
Rectal pain	0	2
Elevated CEA level	2	0.4

unknown reasons (2). Seven out of 22 patients (32%) had partial response resulting in tumor down-staging. Three patients (14%) had pathological complete response. Fifteen patients (11%) did not receive adjuvant chemotherapy due to patient refusal (13), poor performance status (2). Table 3 described proportion of patients in each group that received chemotherapy.

Toxicity

Among 248 patients who received at least 1 cycle of chemotherapy, 59 patients experienced some toxicity reaction that required dose reduction. There were 35 rectal cancer patients and 24 colon cancer patients. Treatment related grade 3 and grade 4 (grade 3/4) toxicity is shown in Table 4.

In 5-FU group, 41 patients (20%) experienced grade 3/4 toxicity: 35 patients (17%) required dose reduction, 6 patients (3%) had to stop chemotherapy before completion of the planned schedule. In capecitabine group, 12 patients (35%) experienced grade 3/4 toxicity: 11 patients (32%) required dose reduction and chemotherapy was discontinued earlier in 1 patient (3%) due to treatment toxicity. In FOLFOX/XELOX group, 6 patients (75%) experienced grade 3/4 toxicity and required dose reduction, 2 patients (25%) had chemotherapy discontinued earlier than the planned schedule. There was no treatment associated mortality in this cohort.

Recurrence of disease

One hundred and ten patients had disease recurrence. Local recurrence occurred in 35 patients; fifteen out of 172 (8%) were colon cancer patients (1 patient in stage I, 4 patients in stage II and 10 patients in stage III), twenty out of 183 (11%) were rectal cancer patients (1 patient in stage I, 3 patients in stage II and 16 patients in stage III). One hundred and two patients had distant metastasis. The three most common metastatic sites in colon cancer patients were liver (36%), lung (30%) and distant lymph node (14%); in rectal cancer patients, the sites were lung (55%), liver (20%) and distant lymph node (16%).

Survival

The median follow-up time of 355 patients was 63.3 months (95%CI 61.0 to 65.7). At last follow-up (December 31, 2010), there were 300 patients alive, 53 patients deceased, 2 patients lost to follow-up. Overall survival (OS) was 83% at 5 years and 81% at 8 years. Disease-free survival (DFS) was 72% at 5 years and 61% at 8 years. According to stage, 5-year DFS was 90%, 85% and 58% for stage I, II and III colorectal cancer, respectively; 5-year OS was 93%, 93% and 73% for stage I, II and III colorectal cancer, respectively.

In the colon cancer group, 5-year DFS and OS was 77% and 85%, respectively. In the rectal cancer group, 5-year DFS and OS was 68% and 81%, respectively. The cumulative OS and DFS of colon and rectal cancer patients categorized by stage were shown in Fig. 2.

Univariate analysis by Kaplan Meier survival analysis and log rank test was performed using clinical parameters and known prognostic factors to evaluate for the significant influence on OS. These factors[12,13] included age (≤ 60, > 60 years), gender, primary tumor site (colon or rectum), pre-operative CEA level (≤ 5 or > 5 ng/mL), T stage (T1-2, T3, T4), regional lymph node involvement (N0, N1-2), UICC stage (stage I, II, III),

Table 2. Clinical characteristics of 355 patients with stage I-III colorectal cancer

Variables	Colorectal cancer (n = 355)	Colon cancer (n = 172)	Rectum cancer (n = 183)
Male: female	1.4:1	1.3:1	1.6:1
Median age (years)	59.8	61.1	58.5
Co-morbid disease (%)			
Yes	40	44	36
No	60	56	64
Type of reimbursement of medical expenses (%)			
Government employee	43	49	38
Social security	8	5	10
Universal coverage	35	33	37
Self-paid	14	13	15
Stage at diagnosis (%)			
Stage I	17	13	20
Stage II	33	38	28
Stage III	50	49	52
Mean level of pre-operative CEA (ng/mL)	14.2	14.1	14.3
Mean level of post-operative CEA (ng/mL)	3.3	3.3	3.3
Histopathologic grade (%)			
Well differentiated	25	25	26
Moderately differentiated	68	67	68
Poorly differentiated	7	8	6
Invasion (%)			
ALI	21	19	23
PNI	7	8	7
Both ALI and PNI	8	6	10
No ALI and PNI	64	67	60
Primary tumor (T) (%)			
T1	5	4	5
T2	20	13	28
T3	63	70	56
T4	12	13	11
Regional lymph node (N) (%)			
N0	53	52	54
N1	28	35	21
N2	19	13	25
Mean time from diagnosis to surgery (days)	23	17	29
Receive adjuvant or neoadjuvant chemotherapy (%)			
Yes	70	65	75
No	30	35	25
Adjuvant chemotherapy (%)			
5-FU	83	67	96
Capecitabine	13.6	27	3
FOLFOX	3	5	1
XELOX	0.4	1	0

*ALI = angiolymphatic invasion, PNI = perineural invasion, 5-FU = 5-fluorouracil, FOLFOX = leucovorin+5-FU infusion+oxaliplatin, XELOX = capecitabine+oxaliplatin

histological grade (well, moderately or poorly differentiated), angiolymphatic and/or perineural invasion (presence or absence). Factors found to be statistically significant were T stage (p = 0.025), regional

Table 3. Stage of patients receiving chemotherapy

	Number of patients	Number of patients receiving adjuvant or neoadjuvant* chemotherapy	Number of patients not receiving adjuvant or neoadjuvant chemotherapy
Colon cancer	172		
Stage I, stage II (low risk)	44 (26%)	0	44
Stage II (high risk), stage III	128 (74%)	111 (87%)	17 (13%)
Rectal cancer	183		
Stage I	36 (20%)	5**	31
Stage II	52 (28%)	44 (85%)	8 (15%)
Stage III	95 (52%)	88 (93%)	7 (7%)

*Twenty-two rectal cancer patients received neoadjuvant chemoradiation
**Reason for adjuvant chemotherapy: trans-anal excision(2), inadequate node sampling(2), presence of angiolymphatic invasion(1)

Table 4. Treatment associated grade 3/4 toxicity

Grade 3/4 toxicities	5-FU (n = 206)	Capecitabine (n = 34)	FOLFOX/XELOX (n = 8)
Mucositis	16 (8%)	3 (9%)	0
Diarrhea	15 (7%)	1 (3%)	0
Hand-foot syndrome	0	9 (26%)	1 (12.5%)
myelosuppression	8 (4%)	1 (3%)	3 (37.5%)
Neuropathy	0	0	1 (12.5%)
Febrile neutropenia	4 (2%)	0	1 (12.5%)

lymph node involvement ($p < 0.001$) and UICC stage ($p < 0.001$) (Table 5).

Multivariate Cox proportional hazard regression analysis of factors influencing DFS and OS was performed using factors mentioned previously. Independent risk factors for worse DFS were male gender, pre-operative CEA > 5 ng/mL and stage III disease. However, risk factors that remained significant for worse OS were male gender and stage III disease (Table 6 and 7).

Discussion

In the present study, the authors retrospectively collected data of colorectal cancer patients treated at Siriraj Hospital from January 1, 2003 to December 31, 2007. The incidence of stage I-IV colorectal cancer was 9%, 22%, 37% and 32%, respectively. The stage distribution in the present study was similar when the authors compared to another retrospective study of Thai colorectal cancer patients conducted during 1995-2003 by Laohavinij et al[14], which showed the incidence of stage I-IV was 2%, 30%, 32%, 36%, respectively. According to SEER cancer statistics[15] during 1999-2006, the stage distribution of colorectal cancer in USA was 39% for stage I-II, 37% for stage III and 19% for stage IV disease. The present study had more patients with metastatic disease at presentation. The reasons for different stage distribution could be lack of routine screening of colorectal cancer in Thailand and because all patients in the present study were diagnosed after they developed symptoms.

All patients in the present study received definite surgery after diagnosis. The mean time from diagnosis to surgery was 23 days. More than 85% of the patients for whom systemic treatment was indicated received chemotherapy as part of their treatments. Overall response rate was 46% with pathological complete response of 14% in 22 rectal cancer patients receiving neoadjuvant chemoradiation, compared to

Table 5. Univariate analysis of possible prognostic factors influencing overall survival

Variable	No.	Median survival (months)	Range of survival (months)	p-value (log rank test)
CRC				
Colon	172	86.2	82.4-89.9	0.64
Rectum	183	82.3	78.8-85.8	
Gender				
Female	145	86.7	83.1-90.2	0.08
Male	210	83.6	79.9-87.3	
Age				
> 60 years	176	84.4	80.8-88.0	0.99
≤ 60 years	179	85.4	81.6-89.1	
Pre-operative CEA				
≤ 5 ng/mL	136	87.2	83.6-90.8	0.06
> 5 ng/mL	115	79.3	74.4-84.2	
T stage				
T1-T2	89	89.9	86.5-93.3	0.025*
T3	221	84.1	80.6-87.7	
T4	42	71.8	64.0-79.6	
N stage				
N0	188	90.2	87.9-92.6	< 0.001*
N1-2	166	79.0	74.3-83.7	
Histological grade				
Well differentiated	88	90.4	86.3-94.5	0.107
Moderately differentiated	233	80.4	77.2-83.6	
Poorly differentiated	24	79.2	68.4-89.9	
ALI** and/or PNI***				
Presence	111	82.5	76.9-87.9	0.232
Abcence	195	85.6	82.5-88.9	
UICC Stage				
Stage I	62	92.0	88.9-94.9	< 0.001*
Stage II	117	89.1	85.8-92.4	
Stage III	176	79.2	74.6-83.7	

*p-value < 0.05; significance. **ALI = angiolymphatic invasion. ***PNI = perineural invasion

Sirachainan et al[16], which reported result of preoperative chemoradiation in 11 patients with a response rate of 42% and pathological complete response of 25%.

In terms of treatment related toxicity, the authors reported grade 3/4 toxicity leading to dose reduction, dose delay or discontinuation of chemotherapy. In patients receiving 5-FU with leucovorin, mucositis occurred in 8% when compared to 3-21% previously reported in clinical trials included in IMPACT study[4]; diarrhea occurred in 7% compared to 3-26%. The most common toxicity in patients receiving capecitabine was hand-foot syndrome which occurred in 26%, compared to 41% reported by Law C et al[17]. The difference in incidence of grade 3/4 toxicity may be due to nature of a retrospective study with incomplete data records causing underestimation of toxicity.

With regards to survival defined by stage, 5-year DFS in this study was 90%, 85% and 58% for stage I, II and III, respectively; 5-year OS was 93%, 93% and 73% for stage I, II and III, respectively, compared to Laohavinij et al[14], 5-year OS was 100% for stage I, 68% for stage II and 44% for stage III. The difference in outcome in stage II and III patients may be caused by different study periods and institutions. Although oxaliplatin was approved for adjuvant treatment for stage III colon cancer patients in 2005,

Table 6. Independent risk factors that correlated with DFS of stage I-III colorectal cancer patients by multivariate analysis (Backward Wald Cox proportional hazard regression)

Variables	Univariate analysis		Multivariate analysis		p-value
	HR	95% CI	HR	95% CI	
Female	1		1		
Male	1.40	0.95-2.08	2.11	1.29-3.47	0.003*
Pre-operative CEA					
≤ 5 ng/mL	1		1		
> 5 ng/mL	1.97	1.24-3.13	1.63	1.01-2.62	0.044*
Stage I	1		1		
Stage II	1.68	0.71-3.98	1.15	0.37-3.62	0.81
Stage III	5.34	2.47-11.56	4.52	1.63-12.53	0.004*

*p-value < 0.05; significance

Table 7. Independent risk factors that correlated with OS of stage I-III colorectal cancer patients by multivariate analysis (Backward Wald Cox proportional hazard regression)

Variables	Univariate analysis		Multivariate analysis		p-value
	HR	95% CI	HR	95% CI	
Female	1		1		
Male	1.67	0.93-3.00	1.97	1.09-3.57	< 0.001*
Stage I	1		1		
Stage II	1.73	0.47-6.40	1.67	0.45-6.17	0.44
Stage III	5.96	1.84-19.25	6.40	1.98-20.75	0.002*

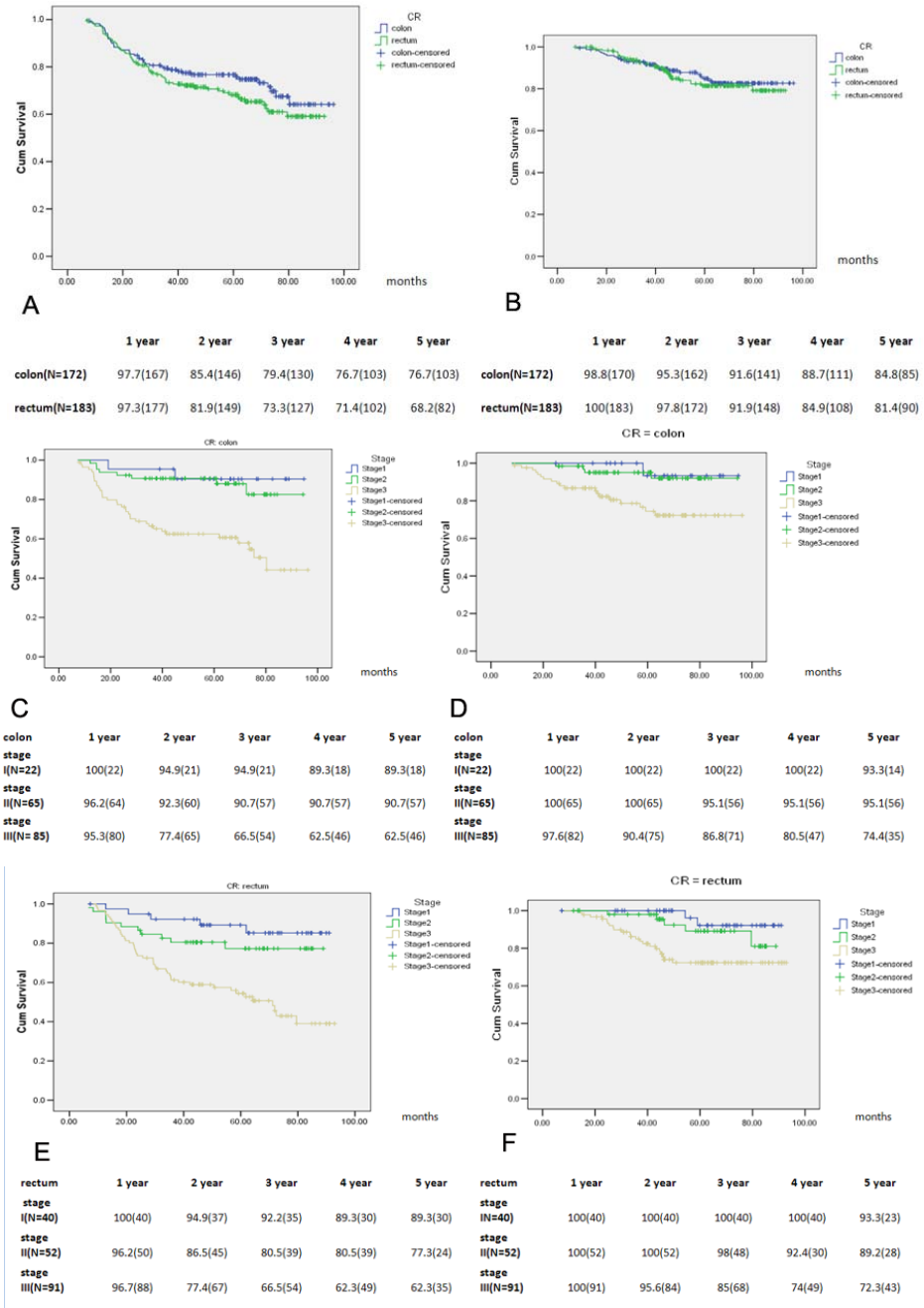
*p-value < 0.05; significance

only 8 patients in this study received adjuvant oxaliplatin.

In colon cancer patients, 3-year OS in stage II and III in this study was 91% and 87%, respectively, compared to 83% and 78% in patients receiving adjuvant 5-FU based regimen in IMPACT[4] study and X-ACT[7] study, respectively. In rectal cancer patients, 3 -year OS in stage II and III in the present study 98% and 85%, respectively, compared to 81-83% in high risk rectal cancer patients receiving 5-FU based regimen plus radiation in GI INT 0144 trial[18]. Thus, the survival outcome in the present study is comparable to what has been reported in randomized trials of adjuvant chemotherapy and radiation in colorectal cancer.

The result concerning prognostic factors for stage I-III colorectal cancer determined by multivariate analysis, showed that gender, preoperative CEA and stage were independent prognostic factors for DFS; gender and stage remained independent factors for OS. In the present study, males had almost twice an increase in risk of death when compared to females. There was no difference in any other clinical factors between males and females in this cohort. One epidemiologic study in colorectal cancer[19] showed that disease related mortality has decreased over time; among females, colorectal cancer mortality rates showed a steady decrease from 1975 to 2007. A recent study from National Cancer Institute[20] in the United States has shown that men have higher cancer mortality rates than do women and it is difficult to specify the cause of the disparity; with regards to colorectal cancer, there was slight disparity of greater risk of death in men compared to women (1.42 to 1).

The limitations of the study were its retrospective design, single center and selection bias in that the authors included only patients who had minimum of 2 years follow-up, which may result in better outcome when compared to the other studies in



	1 year	2 year	3 year	4 year	5 year
colon(N=172)	97.7(167)	85.4(146)	79.4(130)	76.7(103)	76.7(103)
rectum(N=183)	97.3(177)	81.9(149)	73.3(127)	71.4(102)	68.2(82)

	1 year	2 year	3 year	4 year	5 year
colon(N=172)	98.8(170)	95.3(162)	91.6(141)	88.7(111)	84.8(85)
rectum(N=183)	100(183)	97.8(172)	91.9(148)	84.9(108)	81.4(90)

colon	1 year	2 year	3 year	4 year	5 year
stage I(N=22)	100(22)	94.9(21)	94.9(21)	89.3(18)	89.3(18)
stage II(N=65)	96.2(64)	92.3(60)	90.7(57)	90.7(57)	90.7(57)
stage III(N= 85)	95.3(80)	77.4(65)	66.5(54)	62.5(46)	62.5(46)

colon	1 year	2 year	3 year	4 year	5 year
stage I(N=22)	100(22)	100(22)	100(22)	100(22)	93.3(14)
stage II(N=65)	100(65)	100(65)	95.1(56)	95.1(56)	95.1(56)
stage III(N=85)	97.6(82)	90.4(75)	86.8(71)	80.5(47)	74.4(35)

rectum	1 year	2 year	3 year	4 year	5 year
stage I(N=40)	100(40)	94.9(37)	92.2(35)	89.3(30)	89.3(30)
stage II(N=52)	96.2(50)	86.5(45)	80.5(39)	80.5(39)	77.3(24)
stage III(N=91)	96.7(88)	77.4(67)	66.5(54)	62.3(49)	62.3(35)

rectum	1 year	2 year	3 year	4 year	5 year
stage IN=40)	100(40)	100(40)	100(40)	100(40)	93.3(23)
stage II(N=52)	100(52)	100(52)	98(48)	92.4(30)	89.2(28)
stage III(N=91)	100(91)	95.6(84)	85(68)	74(49)	72.3(43)

Fig. 2 Cumulative OS and DFS of colorectal cancer patients. (A) DFS in colon and rectal cancer patients; (B) OS in colon and rectal cancer patients; (C) DFS in stage I-III colon cancer patients; (D) OS in stage I-III colon cancer patients; (E) DFS in stage I-III rectal cancer patients; (F) OS in stage I-III rectal cancer patients

Thailand.

Conclusion

Approximately two-thirds (68%) of patients with colorectal cancer at Siriraj Hospital presented with a potentially curable stage. Multi-modality treatments with surgery, adjuvant chemotherapy and radiation resulted in comparable survival as in Western countries. Independent risk factors for worse survival in this cohort were stage III disease and male gender.

Potential conflicts of interest

None.

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ลักษณะทางคลินิกและผลการรักษาของผู้ป่วยมะเร็งลำไส้ใหญ่ระยะที่ 1-3 ในโรงพยาบาลศิริราช

ศิริโสภา เตชะวัฒนวรรณา, อัครินทร์ นิมมานนิตย์, จารุวรรณ เอกวัลลภ

ภูมิหลัง: *มะเร็งลำไส้ใหญ่เป็นโรคมะเร็งที่พบมากเป็นอันดับที่ 3 ทั่วโลก มีการรายงานผลการรักษาผู้ป่วยไทยที่เป็นมะเร็งลำไส้ใหญ่ค่อนข้างน้อย ดังนั้นคณะผู้นิพนธ์จึงทำการศึกษาแบบย้อนหลังเกี่ยวกับลักษณะทางคลินิกและผลการรักษาของผู้ป่วยมะเร็งลำไส้ใหญ่ในระยะที่สามารถรักษาให้หายขาดได้ ที่ได้รับการรักษาในโรงพยาบาลศิริราช ซึ่งเป็นโรงพยาบาลตติยภูมิขนาดใหญ่ที่สุดในประเทศไทย*

วัสดุและวิธีการ: *ได้ทบทวนเวชระเบียนของผู้ป่วยมะเร็งลำไส้ใหญ่ที่ได้รับการวินิจฉัย และรักษาที่โรงพยาบาลศิริราช ในระหว่างเดือนมกราคม พ.ศ. 2546 และเดือนธันวาคม พ.ศ. 2550 โดยคัดเลือกผู้ป่วยที่เป็นมะเร็งลำไส้ใหญ่ระยะที่ 1–3 ที่มาติดตามการรักษาอย่างต่อเนื่องเป็นเวลาอย่างน้อย 2 ปี โดยรายงานลักษณะทางคลินิก ได้แก่ ข้อมูลพื้นฐานของผู้ป่วย ตำแหน่งของก้อนมะเร็ง ระยะของโรค ผลการตรวจทางพยาธิวิทยาและระดับ CEA รวมทั้งวิเคราะห์ผลของการรักษา ได้แก่ อัตราการรอดชีวิต การกลับเป็นซ้ำของโรค ภาวะแทรกซ้อนของการรักษา*

ผลการศึกษา: *มีผู้ป่วยมะเร็งลำไส้ใหญ่จำนวน 1,047 ราย ที่ได้รับการวินิจฉัยและประเมินระยะของโรคในระยะเวลาดังกล่าว ความชุกของโรคมะเร็งในระยะที่ 1 ถึง 4 เท่ากับ 9%, 22%, 37% และ 32% ตามลำดับ ได้คัดเลือกผู้ป่วยมะเร็งลำไส้ใหญ่ระยะที่ 1 ถึง 3 จำนวน 355 ราย ในการศึกษานี้ พบว่า อัตราส่วนของเพศชายต่อเพศหญิงเท่ากับ 1.4:1 อายุเฉลี่ยเท่ากับ 59.8 ปี เป็นผู้ป่วยมะเร็งลำไส้ใหญ่ส่วน colon 48% และมะเร็งลำไส้ใหญ่ส่วน rectum 52% ระยะเวลาเฉลี่ยในการติดตามผู้ป่วยเท่ากับ 63.3 เดือน ระยะเฉลี่ยจากวันที่วินิจฉัยถึงวันที่ได้รับการผ่าตัดเท่ากับ 23 วัน ผู้ป่วย 248 ราย (70%) ได้รับการรักษาเสริมด้วยยาเคมีบำบัดก่อนหรือหลังการผ่าตัด โดยส่วนใหญ่ได้รับยา 5-fluorouracil ร่วมกับ leucovorin อัตราการรอดชีวิตแบบปลอดโรคที่ 5 ปี (5-year disease free survival) ในผู้ป่วยมะเร็งลำไส้ใหญ่ระยะที่ 1 ถึง 3 เท่ากับ 90%, 85% และ 58% ตามลำดับ อัตราการรอดชีวิตที่ 5 ปี (5-year overall survival) ในผู้ป่วยระยะที่ 1 ถึง 3 เท่ากับ 93%, 93% และ 73% ตามลำดับ ปัจจัยเสี่ยงที่สำคัญที่มีผลต่อการรอดชีวิตแบบปลอดโรค ได้แก่ เพศ ระดับ CEA ก่อนการผ่าตัด และระยะของโรค ส่วนปัจจัยเสี่ยงที่สำคัญที่มีผลต่อการรอดชีวิต ได้แก่ เพศ และระยะของโรค*

สรุป: *ประมาณ 2 ใน 3 (68%) ของผู้ป่วยมะเร็งลำไส้ใหญ่ที่โรงพยาบาลศิริราชเป็นระยะที่สามารถรักษาให้หายขาดได้ การรักษาร่วมกันแบบสหสาขาวิชา ได้แก่ การผ่าตัด การรักษาเสริมด้วยยาเคมีบำบัด และรังสีรักษาทำให้ได้ผลการรักษาที่ดีเทียบเท่ากับผลการรักษาในผู้ป่วยในประเทศแถบตะวันตก ปัจจัยเสี่ยงที่สำคัญที่มีผลทำให้การรอดชีวิตลดลงในผู้ป่วยกลุ่มนี้ คือ เพศชาย และโรคมะเร็งระยะที่ 3*