Clinical Indications of Patients with Colorectal Neoplasm Who Underwent Colonoscopy at King Chulalongkorn Memorial Hospital (Presentations of Colorectal Neoplasm from Colonoscopy Database)

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Abstract

Even though colorectal cancer in Thailand is not the number one leading cause of death, the incidence of this malignancy is not ignorable. Unfortunately, the majority of patients are diagnosed at a very late stage because of no screening protocol for a high risk group. The authors retrospectively reviewed clinical presentations of patients with colorectal neoplasm who underwent colonoscopy at King Chulalongkorn Memorial Hospital during the two-year period from September 2000 to December 2002.

There were 107 patients with colorectal polyps and 48 patients with colorectal cancer. According to frequency of indications: anemia, bowel habit change, and abnormal radiography were presented in patients with colorectal polyps and cancers. There were more right sided colorectal polyps than rectosigmoid polyps. In addition, rectosigmoid cancer was detected less often than right sided colonic cancer. Half of the patients with rectosigmoid cancer presented with hematochezia compared to right sided colonic cancer. Total colonic examination is required if a colonic neoplasm is suspected.

Key word : Colorectal Neoplasm, Colonoscopy

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Although the incidence of colorectal neoplasm in Thailand may not be as common as in the Western world it does exist. Unfortunately, in the past the majority of patients presented to medical professionals at a very late stage. With recent advances in gastrointestinal endoscopy, colonoscopy has become a mainstay surveillance tool to detect the early stage of this malignancy. In addition, a patient with colorectal polyp without invasive cancer can be detected and treated by colonoscopy alone.

In Thailand, colonoscopy has recently been accepted as a new standard of care for early diagnosis and treatment of a colorectal neoplasm.

Previous studies have shown differences between the incidence and tumor characteristics of colorectal neoplasm in Orientals and Westerners[1,2]. The authors' recent study reported that bowel habit change was the most common presentation of those patients who underwent surgery[3]. To date, Thailand has little information regarding clinical presentations of patients with colonic neoplasm who underwent colonoscopy. This study is a retrospective review to compare the difference of clinical presentations between patients with colorectal polyp and patients with invasive colorectal cancer at different sites of the colon.

PATIENTS AND METHOD

The authors retrieved the endoscopic database at King Chulalongkorn Memorial Hospital between September 2000 and December 2002. There were 991 colonoscopies performed on 821 patients for different indications. Colorectal neoplasm was found in 155 patients (Table 1). Of these, eighty-seven were men and sixty-eight were women, with a mean age of 57.6 years (range 27-87).

Clinical indications for colonoscopy of patients who were found to have colorectal neoplasm were categorized into; anemia, bowel habit change, family history of colon cancer, hematochezia, stool occult blood positive, abdominal pain, with or without mass and abnormal radiography (by CT scan, ultrasonography, or barium enema).

The majority of patients had only one clinical presentation but sixteen patients had more than one clinical presentation. Of these sixteen, only the major indication was used for analysis. Indications for colonoscopy were compared among different groups such as colorectal polyp and colorectal cancer, rectosigmoid polyp and right-sided polyp, and finally rectosigmoid cancer and right-sided colonic cancer.

Table 1. Demographic data of patients with a colorectal neoplasm diagnosed by colonoscopy.

Patients	Male	Female	Total
Number	87	68	155
Range of age	27-81	35-87	27-87
Mean age	53.8	62.4	57.6

Definitions

Right sided colonic lesion (cecum, ascending colon, and transverse colon) means a lesion above the reach of the sigmoidoscope.

Rectosigmoid lesion means a lesion within the reach of the sigmoidoscope.

Polyp means colonic neoplasm that does not contain malignancy cells.

Statistical analysis

The Fisher's exact test was used for comparison of proportions. Data from different pairs were compared separately. All statistical analysis was performed with a statistical software program (SPSS 10.0; SPSS, Inc., Chicago, IL). A p-value of < 0.05 was considered statistically significant.

RESULTS

There were 107 patients with colorectal polyps and 48 patients with colorectal cancer (Table 2). In the group of colorectal polyps, anemia was the most frequent indication followed by bowel habit change, and abnormal radiography respectively. In the other group with colorectal cancer, abnormal radiography was the most frequent indication followed by hematochezia, bowel habit change, and anemia respectively. In this group, the incidence of hematochezia was significantly much higher than the polyp group.

There were more right sided colorectal polyps than rectosigmoid polyps (n = 73 *vs* 34). Clinical indications regarding frequency between these two groups were not significantly different. According to frequency of indications; anemia, hematochezia, bowel habit change and abnormal radiography were among the most common presentations (Table 3).

Rectosigmoid cancer was detected less often than right sided colonic cancer (n = 12 *vs* 36). Patients with rectosigmoid cancer presented with hematochezia significantly more often than patients with right sided

Table 2. Indications for colonoscopy in patients who were found to have a colorectal neoplasm (main indication since some patients had more than one clinical presentation).

Indications	Colorectal polyps (N = 107)		Colorectal cancer (N = 48)	
	N	%	N	%
Anemia	28	26.2	8	16.7
Abnormal radiography	16	15.0	13	27.1
Bowel habit change	21	19.6	9	18.8
Family history of colorectal cancer	4	3.7	1	2.1
Stool occult blood positive	9	8.4	2	4.2
Abdominal pain ± mass	8	7.5	3	6.2
Hematochezia*	19	7.8	10	20.8
Patient request	5	4.7	2	4.2
Weight loss	1	0.9	0	0

* $p < 0.05$

Table 3. Indications for colonoscopy in patients found to have a colorectal polyp (main indication since some patients had more than one clinical presentation).

Indications	Rectosigmoid polyp (N = 34)		Right sided polyp (N = 73)	
	N	%	N	%
Anemia	8	23.5	20	27.4
Abnormal radiography	4	11.8	12	16.4
Bowel habit change	8	23.5	13	17.8
Family history of colorectal cancer	1	2.9	3	4.1
Stool occult blood positive	3	8.8	6	8.2
Abdominal pain ± mass	1	2.9	7	9.5
Hematochezia*	8	23.5	11	15.1
Patient request	0	0	5	6.8
Weight loss	1	2.9	0	0

* $p < 0.05$

colonic cancer (50% *vs* 11.1%, $p < 0.05$) (Table 4). In contrast, patients with right sided colonic cancer presented with abnormal radiography (33.3% *vs* 8.3%, $p < 0.05$) and bowel habit change (22.2% *vs* 8.3%, $p < 0.05$) more often than patients with rectosigmoid cancer.

DISCUSSION

The 5-year survival rate for early stage cancers is over 90 per cent, while the 5- year rate for those diagnosed with widespread cancer is less than 10 per cent. Indirect evidence suggests that most cancers develop from adenomatous polyps and that it takes on average 10 years for a < 1 cm polyp to transform into invasive colorectal cancer (CRC)[4,5].

Given the finding that colon polyps and early cancers are usually asymptomatic and the above-mentioned dwelling time between polyp and cancer, there appears to be a significant opportunity for CRC prevention by screening asymptomatic individuals.

In Thailand, colorectal cancer is among the most common cancers and its prevalence is 8.8:100,000 [2]. Unfortunately the presented patients were diagnosed at very late stages of the disease. A recent report from the authors' series showed that Duke'D was the most common stage of colorectal cancer (38%) in patients who underwent surgery. On the other hand early stage of colorectal cancer requiring surgery such as Duke'B1 was found in only 3.4 per cent of patients in this report[3].

Table 4. Indications for colonoscopy in patients found to have colorectal cancer (main indication since some patients had more than one clinical presentation).

Indications	Rectosigmoid cancer (N = 12)		Right sided colonic cancer (N = 36)	
	N	%	N	%
Anemia	2	16.7	6	16.7
Abnormal radiography*	1	8.3	12	33.3
Bowel habit change	1	8.3	8	22.2
Family history of colorectal cancer	0	0	1	2.8
Stool occult blood positive	1	8.3	1	2.8
Abdominal pain ± mass	1	8.3	2	5.6
Hematochezia*	6	50	4	11.1
Patient request	0	0	2	5.6
Weight loss	0	0	0	0

* $p < 0.05$

This made the prognosis of the presented patients poorer than it should be, since there are less options for curative therapy unless this neoplasm can be detected earlier.

Most colorectal cancers still present with symptoms because screening, although effective, is not yet widely practiced. A careful history and physical examination are still the usual methods for suspecting colorectal cancer and ordering appropriate investigations. Therefore, knowing the symptoms, duration, and clues to location of colorectal cancer can help to identify patients who are at risk.

A group from Harvard medical school reviewed records of 204 patients with colorectal cancer and reported that the most common symptoms were rectal bleeding (58%), abdominal pain (52%), and change in bowel habits (51%); the majority had anemia (57g) and occult bleeding (77%)(6). The present series reported that anemia, bowel habit change, hemotachezia, and stool occult blood positive were among the common indications for colonoscopy in colorectal neoplasm. More importantly, hematochezia was the most common indication of patients with rectosigmoid lesions especially present in half of the patients with rectosigmoid cancer. In the present series, most of the patients had only one main indication for colonoscopy recorded into the computer database. There were only 16 patients who had more than one clinical indication.

Many studies published since the early 1990s (7-9), showed that screening for colorectal cancer can reduce cancer related mortality, which has led many organizations, especially in the Western world, to recommend screening in asymptomatic, average risk adults who are older than 50 years.

At this period of time, this recommendation is not applicable for Thais due to the lack of human and endoscopic resources. Currently, the authors do colonoscopy only in patients at high risk of colorectal cancer such as bowel habit change, hematochezia, and abnormal radiographic findings. Since it is known that the majority of patients with early stage of colorectal neoplasm are asymptomatic then any screening tool that does not require expensive resources or human expertise will be the most appropriate for our population.

There is now solid evidence that screening with stool occult blood testing not only reduces the mortality from colorectal cancer, but also that the incidence of colorectal cancer is substantially reduced after removal of precursor lesions(7-12).

There is a lot of debate about whether stool collected by digital rectal examination may have a lower specificity for colorectal neoplasm detection or not. Zhang et al(13) reported a significant difference in the specificity between routine screening and the digital rectal examination method (96.5% *vs* 79.8%, $p < 0.01$). On the other hand, Burke et al found a similar positive predictive value between these two methods (36% *vs* 33%)(14). Since this test is not sensitive enough to include all patients with colorectal neoplasm, there should be some other means to screen for this malignancy. Colonoscopy is not attractive as the initial screening instrument, despite its high diagnostic accuracy, and should only be used for screening high risk individuals. Stool occult blood testing

and sigmoidoscopy have been recommended for screening for colorectal cancer but the sensitivity of such combined testing for detecting neoplasia is uncertain. Liberman et al reported results from 2,885 patients who returned cards for stool occult blood and underwent flexible sigmoidoscopy. They found advanced colorectal neoplasms in 75.8 per cent of subjects(15). Currently, colonoscopy performed once every 10 years has been accepted as another screening method for colorectal cancer. One reason for this is because the epidemiological data confirmed a rightward shift in the colonic distribution of cancer. A group from Albuquerque revealed a statistically significant 16 per cent increase in the proportion of proximal lesions among white males and females, as well as a 22 per cent increase in black males(16). Another report regarding the site distribution of this neoplasm in Hispanics has shown that at least one third of the polyps were found in the right colon(17). The present series has shown a higher incidence of right-sided colorectal masses and polyps than rectosigmoid lesions. This makes colonoscopy a more optimal method for colorectal neoplasm detection for Thais, but practically it is impossible to have this modality available for the whole nation at this moment due to lack of skillful colonoscopists. Thailand has fewer than 20 candidates graduating from the Gastroenterology fellowship training program per year. By rough calculations it would take more than 20 years to have enough certified physicians in this field. The authors need help from other physicians such as surgical endoscopists. However, these surgeons perform more upper endoscopy than colonoscopy so training for colonoscopy has to be included in the surgical residency program.

How about training nurse endoscopists? Even though data from a study by a group in Chicago has shown how safe and effective screening with flexible sigmoidoscopy can be performed by nurse endoscopists(18), it would be much more difficult to train someone to become skillful in colonoscopy especially one without a medical school background. The authors recommend a more practical way by using a combination of flexible sigmoidoscopy plus double contrast barium enema as a screening tool for colorectal neoplasm in this country.

In conclusion, indications for colonoscopy that may represent a colonic neoplasm for Thais are anemia, bowel habit change, hematochezia, stool occult blood positive and abnormal radiography. The most common indication in rectosigmoid neoplasm is hematochezia. Since the incidence of right-sided neoplasm is much higher than the rectosigmoid area, colonoscopy is the perfect method for colorectal neoplasm detection. Double contrast barium enema plus flexible sigmoidoscopy is an alternative method in the mean time when skillful colonoscopists are not yet able to support the whole nation.

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REFERENCES

1. Parker SL, Tong T, Bolden S, et al. Cancer statistics, 1997. CA Cancer J Clin 1997; 47: 5-27.
2. Vatanasapt V, Martin N, Sriplung H, et al. Cancer incidence in Thailand, 1988-1991. Cancer Epidemiol Biomarkers Prev. 1995; 4: 475-83.
3. Kullavanijaya P, Rerknimitr R, Amornratanakosol J. A retrospective study of colorectal cancer in King Chulalongkorn Memorial Hospital. J Med Assoc Thai 2002; 85 (Suppl 1): S85-90.
4. Stryker SJ, Wolff BG, Culp CE, et al. Natural history of untreated colonic polyps. Gastroenterology 1987; 93: 1009-13.
5. Morson BC. The evolution of colorectal carcinoma. Clin Radiol 1984; 35: 425-31.
6. Majumdar SR, Fletcher RH, Evans AT. How does colorectal cancer present? Symptoms, duration, and clues to location, Am J Gastroenterol 1999; 94: 3039-45.
7. Mandel JS, Bond JH, Church, TS et al. Reducing mortality from colorectal cancer by screening for fecal occult blood. Minnesota Colon Cancer Control Study. N Eng J Med 1993; 328: 1365-71.
8. Kronborg O, Fenger C, Olsen J, et al. Randomised study of screening for colorectal cancer with faecal-occult-blood test. Lancet 1996; 348: 1467-71.
9. Hardcastle JD, Chamberlain JO, Robinson MH, et al. Randomised controlled trial of faecal-occult-blood screening for colorectal cancer. Lancet 1996; 348: 1472-7.
10. Newcomb PA, Norfleet RG, Storer BE, et al.

Screening sigmoidoscopy and colorectal cancer mortality. J Natl Cancer Inst 1992; 84: 1572-5.
11. Selby JV, Friedman GD, Quisenberry CP, Weiss N Jr. A case-control study of screening sigmoidoscopy and mortality from colorectal cancer. N Engl J Med 1992; 326: 653-7.
12. Muller AD, Sonnenberg A. Protection by endoscopy against death from colorectal cancer. A case-control study among veterans. Arch Int Med 1995; 155: 1741-8.
13. Zhang B, Nakama H, Fattah AS, et al. Lower specificity of occult-blood test on stool collected by digital rectal examination. Hepatogastroenterology 2002; 49: 165-7.
14. Burke CA, Tadikonda L, Machicao V. Fecal occult blood testing for colorectal cancer screening: Use the finger. Gastroenterol 2001; 96: 3175-7.
15. Lieberman DA, Weiss DG. One-time screening for colorectal cancer with combined fecal occult-blood testing and examination of the distal colon. Gastrointest Endosc 2002; 55: 760-1.
16. Cucino C, Buchner AM, Sonnenberg A Continued rightward shift of colorectal cancer. Dis Colon Rectum 2002; 45: 1035-40.
17. Shaib YH, Rabaa E, Qaseem T. The site distribution and characteristics of colorectal adenomas in Hispanics: A comparative study. Am J Gastroenterol 2002; 97: 2100-2.
18. Jain A, Falzarano J, Jain A, et al. Outcome of 5,000 flexible sigmoidoscopies done by nurse endoscopists for colorectal screening in asymptomatic patients. Hawaii Med J 2002; 61: 116-20.

อาการแสดงของผู้ป่วยที่มีเนื้องอกในลำไส้ใหญ่และทวารหนักที่มารับการส่องกล้อง ณ โรงพยาบาลจุฬาลงกรณ์

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ถึงแม้ว่ามะเร็งของลำไส้ใหญ่และทวารหนักจะไม่ใช่สาเหตุการตายอันดับหนึ่งในประเทศไทยแต่ก็เป็นมะเร็งที่พบได้บ่อยพอสมควร เป็นที่น่าเสียดายว่าผู้ป่วยส่วนใหญ่มาพบแพทย์ก็ต่อเมื่อมะเร็งนั้นได้ลุกลามไปมากแล้วซึ่งอาจเป็นเพราะว่าประเทศไทยยังไม่มีการตรวจกรองที่ดี

รายงานฉบับนี้เป็นการศึกษาผู้ป่วยทั้งที่พบว่าเป็นมะเร็งลำไส้ใหญ่และติ่งเนื้องอกระยะแรกที่มารับการส่องกล้องที่โรงพยาบาลจุฬาลงกรณ์ในช่วงระหว่างเดือนกันยายน พ.ศ. 2543 ถึง เดือน ธันวาคม พ.ศ. 2545 ซึ่งก็ได้พบว่ามีผู้ป่วยที่มีติ่งเนื้องอกในลำไส้ใหญ่ 107 รายและมะเร็งลำไส้ใหญ่และทวารหนัก 48 ราย ผู้ป่วยเหล่านี้มักจะมาด้วยภาวะโลหิตจาง, การขับถ่ายอุจจาระที่เปลี่ยนไป, และความผิดปกติทางรังสี ผู้ป่วยส่วนใหญ่จะมีรอยโรคที่ลำไส้ใหญ่ส่วนต้นมากกว่าลำไส้ใหญ่ส่วนปลายหรือทวารหนัก ทั้งนี้ผู้ป่วยประมาณครึ่งหนึ่งที่มีมะเร็งในลำไส้ใหญ่และติ่งเนื้องอกในลำไส้ใหญ่ส่วนปลายมาพบแพทย์ด้วยภาวะเลือดออกทางทวารหนักเมื่อเทียบกับผู้ป่วยที่มีรอยโรคที่ลำไส้ใหญ่ส่วนต้น

โดยสรุปการทำการตรวจลำไส้ใหญ่ทั้งหมดไม่ว่าจะเป็นโคลอนโนสโคปีหรือซิกมอยโดสโคปีบวกการสวนแป้งทางทวารหนักเป็นการตรวจที่เหมาะสมที่สุดในคนไทยที่สงสัยว่าอาจจะมีเนื้องอกของลำไส้ใหญ่

คำสำคัญ : เนื้องอกของลำไส้ใหญ่และทวารหนัก, โคลอนโนสโคปี

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