

**Colorectal Cancer: Double-Contrast Barium Enema
in Adults Older
Than 50 Years in Maharat Nakhonratchasima Hospital**
**การตรวจมะเร็งลำไส้ใหญ่ด้วย Double-Contrast Barium Enema
ในผู้ป่วยอายุมากกว่า 50 ปี ในโรงพยาบาลมหาราชนครราชสีมา**

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ABSTRACT

- Objective** : To determine the radiographic findings of colorectal cancer detected by double-contrast barium enema of adult older than 50 years in Maharat Nakhonratchasima hospital .
- Material and method** : A retrospective reviewed of all adult older than 50 years who underwent barium enema for colorectal cancer from June 2006 to May 2008
- Result** : ninety-five patients with colorectal cancer from 1698 patients were reviewed. Seventy-one (74.74%) had annular lesion, twenty-one (22.10%) had poly-poid lesion and three (3.16%) had obstruction. Forty-three (45.26%) patients had lesion in the rectum the most common site of colorectal cancer. Thirty-two (33.68%) patients had Duke's stage A lesion, twenty-one (22.10%) patients had Duke's stage B lesion, thirty-five (36.85%) patients had Duke's stage C lesion, seven (7.36%) patients had Duke's stage D lesion.
- Conclusion** : Annular lesions were the most common type of colorectal cancer. The rectum was the most common location and the most of the patients were diagnosis at Duke's stage A and Duke's C
- Key words** : Colorectal Cancer, Double-Contrast Barium Enema

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บทคัดย่อ

- วัตถุประสงค์** : เพื่อศึกษาผลการตรวจเอกซเรย์ Double-contrast barium enema ในผู้ป่วยอายุมากกว่า 50 ปี ที่ได้รับการวินิจฉัยเป็นมะเร็งลำไส้ใหญ่ในโรงพยาบาลมหาราชนครราชสีมา
- วัสดุและวิธีการ** : ศึกษาพรรณนาแบบย้อนหลังในผู้ป่วยที่ได้รับการวินิจฉัยเป็นมะเร็งลำไส้ใหญ่ที่ได้รับการตรวจด้วย Double-contrast barium enema ระหว่างเดือน มิถุนายน พ.ศ. 2549 ถึงพฤษภาคม พ.ศ. 2551
- ผลการศึกษา** : มีผู้ป่วยที่เป็นมะเร็งลำไส้ใหญ่ทั้งสิ้น 95 ราย (5.59%) จากจำนวนผู้ป่วยทั้งหมด 1,698 ราย มี 71 ราย (74.74%) ที่มีรอยโรคแบบ annular lesion มี 21 ราย (22.10%) ที่มีรอยโรคแบบ polypoid lesion และมี 3 ราย (3.16%) ที่มีรอยโรคแบบ obstructive lesion โดยรอยโรคที่พบจำนวนมากอยู่ที่ระดับ rectum มี 43 ราย (45.26%) ระยะของโรคตาม Duke's stage พบระยะ A จำนวน 32 ราย (33.68%) พบระยะ B จำนวน 21 ราย (22.10%) พบระยะ C จำนวน 35 ราย (36.85%) และพบระยะ D จำนวน 7 ราย (7.36%)
- สรุป** : ผู้ป่วยอายุมากกว่า 50 ปี ที่เข้ารับการรักษาในโรงพยาบาลมหาราชนครราชสีมาพบว่าเป็นมะเร็งลำไส้ใหญ่ 95 ราย (5.59%) โดยลักษณะของโรคที่พบบ่อยจะเป็นแบบ annular lesion และตำแหน่งที่พบบ่อยคือ rectum สำหรับระยะโรคที่พบบ่อยจำนวนมากคือ Duke's A และ Duke's C
- คำสำคัญ** : มะเร็งลำไส้ใหญ่, Double-contrast barium enema



INTRODUCTION

Colorectal cancer is the second leading cause of cancer-related death in the United States; it occurs in approximately 150,000 people and accounts for more than 56,000 deaths each year⁽¹⁾. Colorectal cancer is also the third most common cancer in Thailand⁽²⁾. In 1997, the American Cancer Society and other medical organizations formally endorsed a new set of clinical guidelines for colorectal cancer screening that included double-contrast barium enema examination as an option for screening in adults older than 50 years⁽³⁾. Six years later, the guidelines of the American Cancer Society were revised to include a recommendation that patients undergo a screening double-contrast barium enema examination every 5 years⁽⁴⁾.

Material and Method

This study was a retrospective, descriptive study of 95 colorectal cancer patients of 1698 adults older than 50 years who had double-contrast barium enema done in department of Radiology, Maharat Nakhonratchasima Hospital during June 2006 to May 2008 by reviewing all of the medical records. The radiologic findings of the double-contrast barium enema were classified into three groups, annular lesion, polypoid lesion and other lesions, e.g., obstruction. The location of the tumor was classified as rectum, recto-sigmoid colon, descending colon, trans-

verse colon, ascending colon and cecum. Duke's classification was done by using the operative and pathological findings. Duke's A were the cases that the tumor confined to the mucosal layer only, Duke's B were the cases that the tumor were in the mucosal and serial layers, Duke's C were the cases with the tumor and lymph node metastasis, and Duke's D were the cases with distant metastasis. The data was collected from medical records, radiographic reports, operative notes and histopathological reports.

RESULTS

Ninety-five patients (5.59%) of colorectal cancer from 1698 adult older than 50 years were receiving double-contrast barium enema at Department of Radiology, Maharat Nakhonratchasima Hospital between June 2006 to May 2008.

There were 46 male and 49 female. Their ages ranged from 51 to 88 years, with a mean age of 65.42 years. Most of the cases were in the age range of 61 to 80 years, as shown in table 1. The signs and symptoms at presentation included abdominal pain (36.84%), constipation (20%), diarrhea (16.84%), mucous bloody stool (12.63%) and asymptomatic (13.69%) as shown in table 2. Double-contrast barium enema showed the abnormalities and location as shown in Table 3 and 4. There were 71 cases of annular lesion (figure 1), twenty-one cases of polypoid

lesion (figure 2) and three cases of completed obstruction. The lesion located at rectum in 43 cases, at ten recto-sigmoid, at sixteen sigmoid, at ten descending colon, six transverse colon, eight ascending colon and two at cecum. The pathological results were 94 cases of adenocarcinoma and one case of mucous adenocarcinoma. The adenocarcinoma was well differentiated in 47 cases, moderately differentiated in 44 cases, poor differentiated in 3 cases (table 5). According to Duke's staging, the patients were Duke's A thirty-two cases

(33.68%), Duke's B twenty-one cases (22.11%), Duke's C thirty-five case (36.85%) and Duke's D seven cases (7.36%). The metastasis sites in Duke's D patients were liver five case, pancreas in one case and urinary bladder in one case (table 6). In Duke's B invaded of serosal layer about 19 patients and muscular layer about 2 patients. Annular lesion in Duke's A 17 case, Duke's B 18 case, Duke's C 32 case and Duke's D 4 case. Obstructive lesion in Duke's D 3 case.

Table 1 age range and number of patients

Age (years)	Number	Percent
51-60	26	27.37
61-70	35	36.84
71-80	30	31.58
81-90	4	4.21
Total	95	100

Table 2 Symptoms and signs of the patients

Symptoms and signs	Number	Percent
Abdominal pain	35	36.84
Constipation	19	20.00
Diarrhea	16	16.84
Mucous bloody stool	12	12.63
Asymptomatic	13	13.69
Total	95	100

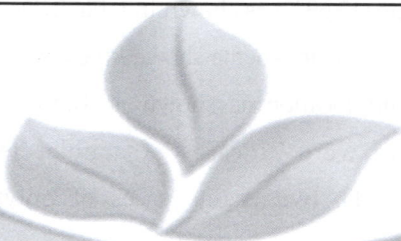


Table 3 abnormalities from barium enema results

Morphology	Number	Percent
Annular	71	74.74
Polypoid	21	22.10
Other	3	3.16
Total	95	100

Table 4 Location of the tumors from barium enema

Location	Number	Percent
Rectum	43	45.26
Rectosigmoid	10	10.53
Sigmoid	16	16.85
Descending colon	10	10.53
Transverse colon	6	6.31
Ascending colon	8	8.42
Cecum	2	2.10
Total	95	100

Table 5 Pathological results

Histologic findings	Number	Percent
Adenomcarcinoma		
Well differentiated	47	49.47
Moderate differentiated	44	46.32
Poorly differentiated	3	3.16
Mucous adenocarcinoma	1	1.05
Total	95	100

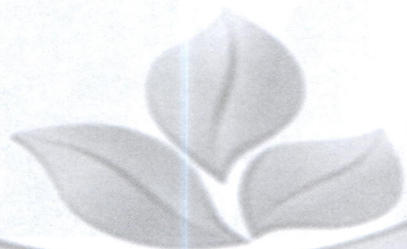


Table 6 Staging of the tumors

Duke's stage	Number	Percent
A	32	33.68
B	21	22.11
C	35	36.85
D with metastasis to		
Liver	5	5.26
Pancreas	1	1.05
Bladder	1	1.05
Total	95	100



Figure 1. Double-contrast barium enema examination demonstrates a typical annular lesion in middle part of descending colon with overhanging edges on both the proximal and distal margins forming a so called “apple-core” lesion.

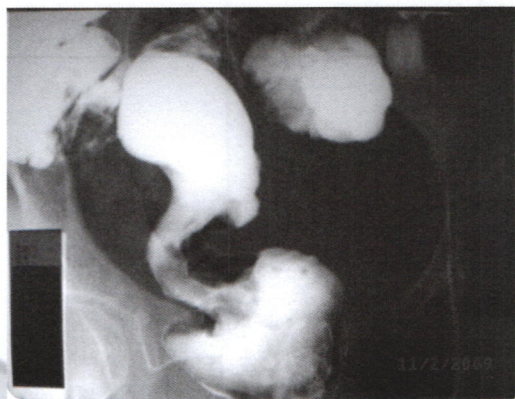


Figure 2. Double-contrast barium enema examination demonstrates a large polypoid mass in lateral wall of rectum with narrowing the lumen over than 50%

DISCUSSION

During the 1940s, rectal and sigmoid carcinoma constituted 65%-80% of all colorectal carcinoma, whereas only 8%-14% of colorectal carcinoma were located in the cecum or ascending colon^(5,6,7,8). In this study right side colon cancers (cecum and ascending colon) were found 10.52% and cancer of rectum and sigmoid colon were found 72.63%. Schub and Steinheber⁽⁹⁾ found the carcinoma of the cecum and ascending colon accounted for 8% of colorectal carcinoma in patients in the 6th decade of life; 22% in the 7th decade; and 29% in the 8th decade and beyond, Other investigators have reported and increasing proportion of right-side carcinomas in the elderly, with a tendency for this trend to be more marked in woman^(5,10). The detection of right-sided colonic carcinoma with barium studies becomes crucial when colonoscopy is unavailable or is incomplete, Highly experienced colonoscopists are able to carry out total colonoscopy to the cecum in excess of 95% of case⁽¹¹⁾. This success rate, however, is not achieved on a widespread basis, as illustrated by a national survey of Members of the American society for Gastrointestinal Endoscopy, which found that colonoscopy was incomplete in 26% of examinations and was limited due to colonoscopic findings in another 9% of examination⁽¹²⁾. Double-contrast barium enema examination is either choice to detected of right-side colonic lesion.

The most common findings of colorectal cancer were annular lesion with advance stage.^(13,14). Annular carcinoma had higher rates of serosal invasion and lymph node metastasis than polypoid carcinoma, but the rates of liver metastasis were comparable⁽¹³⁾. In this study the most common finding in annular lesion was 74.74%. There were only 7 patients who were classified as Duke's D while a large number of patients were in Duke's A and Duke's C. Annular lesions of serosal invaded (16/19 patients) and lymph nodes metatasis (32/35 patients) in this study were 67.60% (48/71 patients).

Staging of the cancer is very important to the result of the treatment and prognosis of the disease. The 5-years survival rate of Duke's A is equal to normal person who do not have cancer. Five years survival rate of Duke's B is 80-85%, Duke's C is 70% and patients with Duke's D have 5-years survival rated only 64%^(15, 16).

The American Cancer Society and other medial organizations have endorsed a new set of clinical guidelines of colorectal cancer screening that includes a total colon examination-either a double-contrast barium enema examination every 5 years or colonoscopy every 10 years⁽⁴⁾. Good screening of colorectal cancer may help all adults older than 50 years to have early diagnosis, good prognosis and good quality of lift.

Conclusion

This study showed results of double-contrast barium enema of colorectal cancer in adults older than 50 years were 95 (5.59%) in Maharat Nakhonratchasima Hospital. Annular lesions were the most common type (74.74%), the rectum was the most common location (45.26%). The most of the patients were diagnosis at Dukes A and Duke's C. Double-contrast barium enema examination is good screening of colorectal cancer in adults older than 50 years every 5 years.

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