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Subtotal Colectomy with Ileo-rectal Anastomosis for Obstructed Left-sided Colonic Cancers

การรักษามะเร็งลำไส้ใหญ่ด้านซ้ายอุดตันเฉียบพลันด้วยการผ่าตัด Subtotal Colectomy แล้วเย็บต่อลำไส้ทันที

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ABSTRACT

Objective : To assess results and complications of emergency subtotal colectomy with ileo-rectal anastomosis in patients presented with acute obstructed left-sided colonic cancer without preoperative bowel preparation.

Design : Retrospective study

Setting : Department of surgery, Nakhonpathom hospital

Subjects : 24 cases of acute obstructed left-sided colonic cancer without perforation.

Intervention : Emergency subtotal colectomy with immediate ileo-rectal anastomosis

Outcome measures : Mortality, morbidity, hospital stay, frequency of defecation

Results : No peri-operative mortality. Morbidity after subtotal colectomy was 4.2%. Only minor wound infection was found. No anastomotic leakage. No intra-peritoneal collection. Mean hospital stay was 11 days (range 7-30). Mean frequency of defecation on discharge from hospital was 5 times/24 hrs (range 1-10).

Conclusions : Subtotal colectomy with ileo-rectal anastomosis is appropriate for treating acute obstructed left-sided colonic cancer when preoperative bowel preparation can not be done provided that a skilled surgeon is available.

Keywords : subtotal colectomy, obstructed left-sided colonic cancer

บทคัดย่อ

วัตถุประสงค์ : เพื่อประเมินผลการผ่าตัดรักษาผู้ป่วยที่เป็นมะเร็งลำไส้ใหญ่ด้านซ้ายซึ่งเกิดอาการลำไส้อุดตันเฉียบพลัน ด้วยวิธี subtotal colectomy แล้วเย็บต่อลำไส้ ileo-rectal ทันที โดยปราศจากการเตรียมลำไส้ก่อนผ่าตัด รวมทั้งอาการแทรกซ้อนที่เกิดขึ้นหลังการผ่าตัด

รูปแบบการศึกษา : แบบ retrospective study

สถานที่ทำการศึกษา : กลุ่มงานศัลยกรรม โรงพยาบาลศูนย์นครปฐม จ.นครปฐม

กลุ่มผู้ป่วย : ผู้ป่วยจำนวน 24 ราย ที่เป็นมะเร็งลำไส้ใหญ่ด้านซ้ายอุดตันโดยลำไส้ใหญ่ยังไม่แตกทะลุ

วิธีการรักษา : การผ่าตัดด้วยวิธี subtotal colectomy แล้วเย็บต่อลำไส้ ileo-rectal ทันที

ตัวชี้วัดในการประเมินผล : อัตราการเสียชีวิต อัตราการเกิดโรคแทรกซ้อนหลังผ่าตัด จำนวนวันนอนโรงพยาบาล และจำนวนครั้งของการถ่ายอุจจาระในวันที่ผู้ป่วยออกจากโรงพยาบาล

ผลการศึกษา : ผู้ป่วยรอดชีวิตกลับบ้านได้ทุกราย โดยเกิดอาการแทรกซ้อนหลังผ่าตัด คือการติดเชื้อที่แผลผ่าตัด คิดเป็นร้อยละ 4.2 โดยมีความรุนแรงเล็กน้อยเท่านั้น ไม่พบการรั่วที่รอยเย็บต่อลำไส้และการติดเชื้อภายในช่องท้อง ผู้ป่วยนอนรักษาอยู่ในโรงพยาบาล 7-30 วัน (เฉลี่ย 11 วัน) และในวันที่ออกจากโรงพยาบาลผู้ป่วยถ่ายอุจจาระ 1-10 ครั้ง (เฉลี่ย 5 ครั้ง)

สรุป : การผ่าตัดรักษาด้วยวิธี subtotal colectomy แล้วเย็บต่อลำไส้ ileo-rectal ทันทีนั้นเป็นวิธีการรักษาที่เหมาะสมวิธีหนึ่งสำหรับผู้ป่วยมะเร็งลำไส้ใหญ่ด้านซ้ายอุดตันเฉียบพลัน ซึ่งไม่สามารถให้การเตรียมลำไส้ก่อนผ่าตัดด้วยวิธีปกติได้ ทั้งนี้ขึ้นอยู่กับความชำนาญของศัลยแพทย์ผู้ทำการผ่าตัดรักษาด้วย

คำสำคัญ : Subtotal colectomy, มะเร็งลำไส้ใหญ่ด้านซ้ายอุดตันเฉียบพลัน

Introduction

Left-sided colonic cancers presenting with bowel obstruction is traditionally treated by staged procedures because immediate resection and anastomosis in a massively distended unprepared colon carries a high complication rate[1,2]. However, the morbidity and mortality of staged procedures cumulatively are about as high. A more aggressive approach has been considered[3-9].

Intra-opertive bowel cleansing of the obstructed colon followed by immediate resection and anastomosis is a procedure with a low complication rate and therefore a safe alternative to staged procedures[8,9]. Subtotal colectomy with ileo-rectal anastomosis is another alternative procedure[6,7,10-23].

Our experience of emergency subtotal colectomy for acute obstructed left-sided colonic cancers were reviewed and reported.

Patients

24 patients presented to Nakhonpathom surgical department with acute obstruction of left-sided colonic cancer from 2007 to 2010. Signs and symptoms combined with radiological evidence of distension of the proximal bowel on plain films confirmed the diagnosis. Sigmoidoscopy was done in

Table 1 Details of the patients who were treated for obstructed left-sided colonic cancer

Sex :	Female	10	cases
	Male	14	cases
Age (average) :		68	yrs (range 42-88)
Sites of cancer :	Descending colon	12	cases
	Sigmoid colon	6	cases
	Rectosigmoid	6	cases
Hospital stay (average) :		11	days (range 6-30)
Morbidity :	Anastomotic leakage	0	%
	Wound infection	4.2	%
	Intra-peritoneal collection	0	%
	Frequency of defecation	5	/24 hrs (range 1-10)
Mortality :		0	%

some cases to look for the nature of the obstruction. Subtotal colectomy was done after all patients were well prepared and stabilized. Appropriate prophylactic antibiotics were given. Patients with peritoneal contamination from colonic perforation were excluded from the study.

All patients underwent emergency subtotal colectomy with immediate ileo-rectal anastomosis (table 1). The colon was resected at the level of the promontory to preserve the branch of the inferior mesenteric artery. In case of rectal cancer, the rectum was resected at least 5 cm distal to the tumor mass. All skin wounds were closed primarily.

Results

24 patients underwent emergency subtotal colectomy without immediate postoperative complications. There were 10 females and 14 males with an average age of 68 years (range 42-88). Tumors producing colonic obstruction were 12 descending colons, 6 sigmoid colons and 6 rectosigmoids. There were no perforation and peritoneal contamination found. There was one case of obstructed left colon with perforation of caecum which was excluded from the study. No liver mass was palpated. The postoperative courses were uneventful. No case needed re-operations. Oral diet was started on about the 4^{th} postoperative day (range 3-7). No anastomotic leakage or intra-peritoneal collection was found. All patients had adequate continence and tolerated well with frequent defecations. On discharge from hospital, frequency of defecation varied from 1-10 times/ 24 hrs (mean = 5). Loperamide was needed in only some cases. The mean hospital stay was 11 days (range 6-30).

Minor wound infection rate was found in 4.2%

(n = 1). There was no peri-operative mortality. All obstructed tumors had been pathologically confirmed as colonic cancers on follow-up visits. All patients were managed with subsequent appropriate adjuvant therapy.

Discussion

Treatment of obstructed colonic cancers is an emergency surgical operation. The proximal colon is distended and filled with feces and its wall is often edematous. Caecal wall is often of dubious viability with signs of impending perforation. Cancers usually invade through colonic wall which are at risk of perforation as well. Bowel fecal contents can easily be spilled leading to peritonitis and intra-peritoneal collections.

Tumor resection is the goal of surgical treatment, traditionally by staged procedures. Right-sided tumor resection with immediate ileo-colic anastomosis is acceptable. Primary colo-colic anastomosis in left-sided colonic obstruction bears the increased risk of break-down because the unprepared colon is filled with large amount of fecal residue. Even without peritoneal contamination, primary resection with immediate anastomosis is still associated with a high incidence of leakage, intra-peritoneal collection, sepsis and mortality[1,2].

As a result, obstructed left-sided colonic cancers are usually treated by a staged procedure that requires several operations. In an initial operation the colonic tumor is resected and the proximal colon end was opened as end-colostomy. The distal colon end may be opened as a mucous fistula or closed as Hartmann's colostomy. This is followed by subsequent closure of colostomy necessitating two operations. Each stage has its own risk of morbidity and mortality. Accumulative mortality for staged procedures can be as high as 40%[3,4]. This procedure should be accepted only in an unstable patient, advanced obstruction stage and concomitant fecal peritonitis[5]. Furthermore, about 30% of temporary colostomies become permanent due to patients' condition and postoperatively-detected liver metastasis[6].

Removal of fecal contents in colonic lumen can increase the safety for primary colonic anastomoses. Saline intra-operative bowel irrigation (IBI) can be performed. After adequate bowel cleansing, a primary anastomosis can be done despite a edematous and dilated proximal colon.[7-10,16] The distal-to-obstruction colon which is empty never poses any problem. Another alternative method is subtotal colectomy which the dilated proximal colon and its fecal residue are removed[6,11-16]. The results of immediate resection and anastomosis have a lower reported morbidity and mortality than staged procedures. These procedures restore bowel continuity after removing the cancers and relieving the obstruction. As a result, a temporary diverting colostomy is not needed, less day of hospital stay, less rate of re-operation and the costs of medical care are also less[15-20].

Subtotal colectomy is preferred to intra-opertive bowel irrigation(IBI). The risks of complications as results of serosal tears or necrosis and possible synchronous and metachronous cancers are eliminated. Ileo-rectal anastomosis can be more easily and safely performed than colo-colic one.

The mortality rate of the series was 4-13%. Anastomotic leak rate was up to 10%. Average daily stool frequency on discharge from hospital was of 2[17-20]. In IBI, insertion of tubes into a massively distended colon causes a risk of peritoneal contamination and surgical infection cannot be easily controlled. Residue in colonic lumen can hardly be all removed. Operative time is usually longer[16]. Postoperative infection is still risky.

In our study, morbidity from diarrhea after subtotal colectomy was small and well-tolerated. Antidiarrheal medication was needed to relieve the symptom in few cases. No patient became incontinent. Attention was preoperatively paid to pelvic floor function which was assessed from patients' history and by digital examination. Incontinence rate of 5% after subtotal colectomy is reported despite preoperative pelvic floor function assessment[17-19]. Only one patient had wound infection which was minor. No intra-peritoneal sepsis and no other major complications were found. There was no peri-operative mortality.

Conclusion

Subtotal colectomy with ileo-rectal anastomosis is a suitable procedure for obstructed left-sided colon cancers provided pelvic floor function is adequate[20-23]. Subtotal colectomy is preferred when there are risks of synchronous tumors or caecal wall dubious viability or perforation[17,20-21]. Segmental resection after intra-operative bowel irrigation is an alternative especially when pelvic floor function is impaired to prevent postoperative incontinence.

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