

Surgery for complications by diverticular disease of the colon

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ABSTRACT: Surgical experience with fifteen complications of diverticular disease of the colon has been reported. These had a considerably long period from onset to operation except for perforation episode.

Conservative treatment prior to surgery is of great benefit to avoid postoperative complications. The surgical outcome, thereafter is satisfactory and recurrence has not been experienced.

INTRODUCTION

In Japan, diverticular disease of the colon has been increased in number with changing dietary habit. Main complications such as diverticulitis, bleeding, abscess and fistula formation are used to be paid attention.

It is of paramount importance in the clinically care of this disease avoid occurring complications. In this study, our clinical experience with surgical treatment for complications based on diverticular disease was evaluated to know the best way for treatment of diverticular disease of the colon.

PATIENTS

Our experience in The First Dept. of Surgery, Nagasaki University Hospital and its affiliated hospital comprise 15 patients. The ages ranged from 22 to 69 (averaging 48.9). Eight out of 15 were over 50 years old. The ratio of male to female was 9:6. The location of the colon was eight cases on the right side (average age 39.1),

seven cases on the left (average age 60.0).

The number of diverticulum was solitary in seven multiple in 8 and there was no difference between the right and left sides.

The reasons for performing operation were diverticulitis in seven, peritonitis secondary to perforation in three, abscess formation in two, internal fistula formation in two and colon stenosis due to stricture in one respectively.

Chief complaints were mainly abdominal pain (in 10) and other complaints were consisted of lumbago in one, diarrhea in one, irritation of urine output in one and others in two respectively. The short time interval from onset was one hour in two. However, considerably long time to operation was needed, two days in four, seven days in five, 10 days in one and three to six months in three, respectively. Except for urgent surgery for peritonitis following perforation, the operative treatment was indicated after elapsing considerably long time from onset. The varying variety of the operative methods were applied for the treatment of complications of diverticular disease, that is, right hemicolectomy in two, left hemicolectomy

in four, a resection of cecum in three, sigmoidectomy in four, including combined resection with fistula-bearing small intestine. Plication of diverticulum in three. The surgical results were satisfactory and all were alive with normal life activity. Some of clinically interesting patients were presented as follows. Fig 1 shows filling defect in the cecum like compression by tumor mass. It was abscess formation caused by diverticulum of the cecum.

Fig 2 reveals a fistulous communication between the sigmoid colon and the ileum arising from diverticula of the sigmoid colon by barium enema.

Fig 3 indicates the macroscopic and microscopic findings concerning fistula between the sigmoid colon and urinary bladder. The patients complained of irritating urinary output syndrome but this symptom subsided in postoperative period.

DISCUSSION

The incidence of diverticular disease of the colon is reported as being 20 to 40% in Europe¹⁾ and 5.5 to 6.3% in Japan²⁾³⁾. It is increasing with age. WELCH⁴⁾ reported that the occurrence of it was rare in young people of less than 35 years but it was 35% in older people of more than 60 and 40% in more than 70. Furthermore it reached 66% in more than 80.

The location was predominant on the left side in Europe⁵⁾ but in Japan 70% existed on the right, in particular in younger patients⁶⁾.

It is well known that clinical manifestation is complex and varying with variety. ULIN⁷⁾ analyzed that it was divided into two types, acute and chronic diverticulitis, and/or simple and complicated respectively. In general, with respect to clinical manifestation, it has been referred to as left sided appendicitis.

The symptoms associated with perforation were serious and sometimes ominous. However, conservative treatment prior to surgery such as drainage and potent antibiotics administration were much more effective than urgent surgery only.

We must pay attention to occurring perforation whenever increasing intraluminal pressure takes place, for example defecation, coughing⁸⁾

It has been called as spontaneous rupture of the colon.

Abscess formation also should be kept in mind. As a rule, it is caused by extending outside the muscular layer of the gut wall. It is reported that its frequency is four to 28%⁹⁾¹⁰⁾ and clinical sign is uncomplicated as if it were a benign neoplastic tumor mass.

The operative methods of exteriorization colostomy and Hartman' operation was recommended for an urgent surgery. Conservative therapies, however, in the present study prior to surgery were of benefit to complete curative operation. Recurrences of the remained diverticulum after surgery were a few as reported to be 3%¹¹⁾. Treatment for the remained diverticulum should be considered by staged operation on account of patient's condition. In this series, recurrence after surgery was not encountered. It seems to be rare in frequency.

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Table. 1. Patients who underwent surgery for
 diverticular disease of the colon.

No cases	15	
age	22~69 (average 48. 9)	
sex	male 9	female 6
location	right 8	left 7
	(age 39. 1)	(60. 1)
Number of diverticula	solitary 7	multiple 8
	(right 4, left 3)	(right 4, left 4)
Complaints	abdominal pain	10
	lumbago	1
	irritating urinary bladder	1
	diarrhea	1
	others	2
onset to op.	1 hr	2
	24 hrs	1
	2 days	4
	7 days	5
	3 § 6 M	3
op. method	right hemicolectomy	2
	left hemicolectomy	3
	cecum resection	3
	sigmoidectomy	4*
	plication	3

* combined resection with ileum

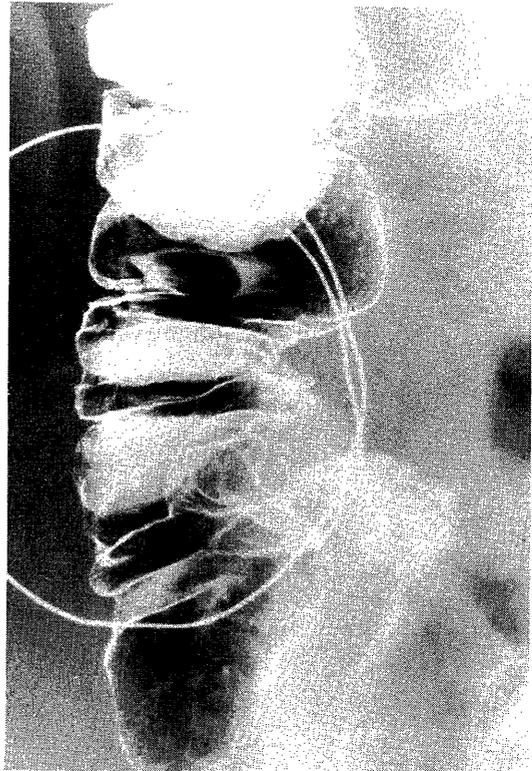


Fig. 1. Shadow defect in the cecum by compression of abscess formation due to diverticular disease.



Fig. 2. Communication of sigmoid colon to the ileum by barium enema, indicating multiple diverticular diseases of the colon.

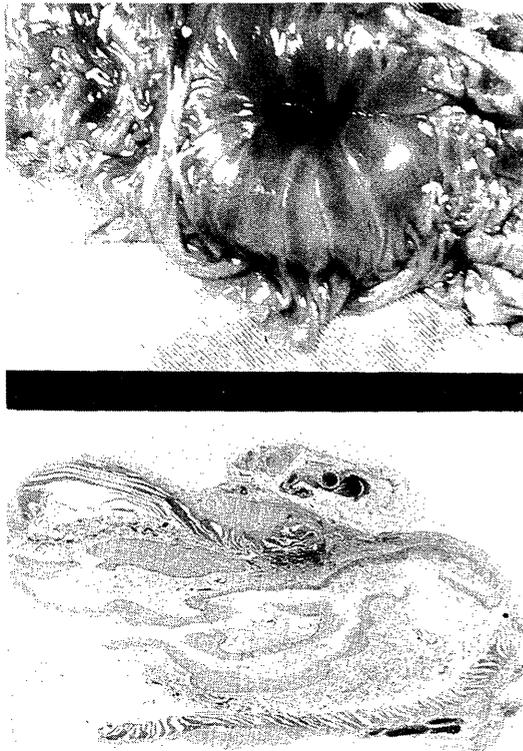


Fig. 3. Macroscopic and microscopic findings of a communication between sigmoid colon and the wall of the urinary bladder.