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Short Communication

A surgeon's help with the management of bowel problems related to gynecology is truly needed – Comparison of two periods spanning 24 years

Tzu-Chi Hsu [a,b,*], Ting-Ming Huang [c], Yuh-Cheng Yang [d]

[a] *Division of Colon and Rectal Surgery, Department of Surgery, Taipei Mackay Memorial Hospital, Taipei, Taiwan*
[b] *Department of Surgery, Taipei Medical University, Taipei, Taiwan*
[c] *Chang-Hua Christian Hospital, Chang-Hua, Taipei, Taiwan*
[d] *Department of Gynecology, Taipei Mackay Memorial Hospital, Taipei, Taiwan*

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Abstract

Objective: Colorectal surgeons are frequently on call to provide help to gynecologists who are managing bowel problems that occur either during or following gynecological surgery. This is a retrospective analysis of a single surgeon's experiences associated with such instances. The analysis focuses on whether there have been any changes in referral patterns, surgical techniques and/or results.
Materials and Methods: From July 1984 to June 2008, 282 patients were operated on by a single colorectal surgeon, for problems that were related to gynecology. These consisted of 137 patients operated on during the first 12-year period, from July 1984 to June 1996. During this first period, 85 patients were operated on for cervical cancer related problems, 39 patients were operated on for problems related to other gynecological malignancies and nine patients were operated on for iatrogenic bowel injury during surgery. During the second 12-year period, from July 1996 to June 2008, 145 patients were operated on. Of these, 85 patients were operated on for cervical cancer related problems, 44 patients were operated on for problems related to other gynecological malignancies and eight patients were operated on for iatrogenic bowel injury during surgery.
Results: During the first 12-year period, six operations were pelvic exenterations for primary gynecological malignancies or recurrences. One hundred and one patients received stomas during their first operation. Twenty-five patients encountered various complications. Postoperative death occurred in five patients. During the second 12-year period, 12 operations were pelvic exenterations for primary gynecological malignancies or recurrences. Eighty-seven patients received stomas during their first operation. Thirty-seven patients encountered various complications. Postoperative death occurred in six patients.
Conclusion: Gynecological problems frequently involve the colon or rectum. Cervical cancer related problems remain the most common type necessitating help from a colorectal surgeon. In spite of advances in surgical management, stomas are still frequently unavoidable in order to cure a patient or improve the patient's quality of life. Appropriate management of problems by a colorectal surgeon in relation to gynecology is important and in the best interests of the patient.

Keywords: colorectal surgeon; gynecologist; malignancy

Introduction

Colorectal surgeons are frequently on call to provide help to gynecologists, by aiding the management of bowel problems either during or following gynecological surgery. This is a retrospective analysis of a single colorectal surgeon's (TCH) experiences with respect to gynecology related problems over 24 years. The analysis focuses on whether there have been any changes in referral patterns, surgical techniques, or results.

Materials and methods

From July 1984 to June 2008, 282 patients were operated on by a single colorectal surgeon for problems related to

* Corresponding author. Number 92, Section 2, Chung-San North Road, Taipei, Taiwan.
E-mail address: tzuchi@ms2.mmh.org.tw (T.-C. Hsu).

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gynecology. Both regular and emergency scheduled cases were included. Problems originating from the colon or rectum, such as sigmoid colon cancers with invasion to the ovaries, were excluded. Also excluded were patients who had lysis of adhesions or separation of the bowel from gynecological organs who did not require bowel resections.

In total, 137 patients were operated on during the first 12-year period, from July 1984 to June 1996. Their ages ranged from 20 to 83 years (mean = 51.1 years). Eighty-five patients were operated on for cervical cancer related problems and most of these patients were suffering from recurrent cancers or enterocolitis resulting from radiation treatment. Thirty-nine patients were operated on for problems related to other gynecological malignancies and over half of these patients had problems related to primary or recurrent ovarian cancer. Nine patients were operated on for iatrogenic bowel injury during surgery. One patient was operated on because of direct invasion by endometriosis of the rectum. Three patients were operated for actinomycosis involving the colon or rectum (Table 1).

In total, 145 patients were operated on during the second 12-year period, from July 1996 to June 2008. Their ages ranged from 28 to 87 years (mean = 56.9 years). Eighty-seven patients were operated on for cervical cancer related problems and most of these patients were suffering from recurrent cancers or enterocolitis resulting from radiation treatment. Forty-four patients were operated on for problems related to other gynecological malignancies and over half of them were related to primary or recurrent ovarian cancers. Eight patients were operated on for iatrogenic bowel injury during surgery. Four patients were operated on because of direct invasion by endometriosis of the rectum. Two patients had two synchronous gynecological and colonic malignancies (Table 1).

Table 1
Gynecological problems related to the need for intervention by a colorectal surgeon.

Related gynecological problems	First period (n = 137)	Second period (n = 145)
Cervical cancer	85	87
Primary cancer	3	5
Recurrent cancer	41	43
Radiation enterocolitis	41	39
Other gynecology malignancies	39	44
Endometrial cancer	1	0
Recurrent endometrial cancer	1	3
Leiomyosarcoma of uterus	0	4
Recurrent leiomyosarcoma of uterus	1	1
Primary ovarian cancer	15	15
Recurrent ovarian cancer	14	15
Recurrent fallopian tube cancer	2	1
Recurrent vaginal cancer	1	3
Recurrent vulval cancer	2	1
Presacral tumor	2	0
Pelvic Castleman's disease	0	1
Iatrogenic injury during surgery	9	8
Endometriosis	1	4
Synchronous gynecological and colon cancer	3	2

Table 2
Indication for colorectal surgery.

Indication for colorectal surgery	First period (n = 137)	Second period (n = 145)
Colorectal invasion by tumor	46	56
Enterovaginal fistula	39	40
Intestinal obstruction	31	27
Iatrogenic perforation of colon	9	8
Radiation proctitis	6	6
Endometriosis invasion to colorectum	1	4
Management of two primary malignancies	0	2
Management of a presacral tumor	2	0
Management of actinomycosis	3	0
Management of Castleman's disease	0	1
Enterocutaneous fistula	0	1

Results

During the first 12-year period, from July 1984 to June 1996, the main indication for colorectal surgery was direct invasion of the colorectum by gynecological tumors, which was encountered in 46 cases. The second most common indication was an enterovaginal fistula, which included a rectovaginal fistula in 39 patients. Operations were needed in 31 patients, due to intestinal obstruction caused by adhesions, tumor invasion or radiation injury. Iatrogenic perforation of the colon was not unusual and occurred in nine patients in this series (Table 2). Anterior resection without a stoma (12 patients) or with a covering stoma (2 patients) were the most common procedures. Six operations were pelvic exenterations for primary gynecological malignancies or recurrences. Although stomas were usually the last choice for the patients, 101 patients received a stoma during their first operation (Table 3). Thirty-one complications of a range of types were encountered in 25 patients. Wound infection and urinary tract infection occurred in five patients each, respiratory failure occurred in four patients and intestinal obstruction and enterocutaneous fistula occurred in three patients each (Table 4). Postoperative death happened with five patients (3.6%) and although terminal illness accounted

Table 3
Main operation procedure for colorectal surgery.

Operation procedure	First period (n = 137)	Second period (n = 145)
Pelvic exenteration	6	12
Anterior resection	12	23
Anterior resection with stoma	2	10
Hartmann's resection	12	15
Partial colectomy	4	6
Resection of small intestine	2	1
Intestinal by pass	5	4
Colostomy only	53	36
Ileostomy only	10	17
Resection or by pass with ileostomy	17	9
Resection of recurrent tumor	2	2
Repair of bowel	6	8
Lysis of adhesions	3	2
Resection of presacral tumor	2	0
Laparotomy with biopsy	1	0

Table 4
Complications of surgery.

Complications	First period ($n = 137$)	Second period ($n = 145$)
Wound infection	5	7
Respiratory failure	4	6
Intestinal obstruction	3	5
Enterocutaneous fistula	3	5
Fever	3	3
Gastrointestinal bleeding	2	2
Sepsis	2	2
Catheter sepsis	1	2
Urinary tract infection	5	2
Urinary leakage	0	1
Presacral bleeding	2	1
Zinc deficiency	1	1
Rectovaginal fistula	0	1
Stroke	0	2
Coma	0	1

Twenty-five patients (18.2%) with 31 complications during the first 12-year period and 31 patients (21.4%) with 41 complications during the second 12-year period.

for death in two patients, three patients died of associated complications (Table 5).

The main indication for colorectal surgery during the second 12-year period, from July 1996 to June 2008, was direct invasion of the colorectum by gynecological tumors, which was encountered in 56 cases. The second most common indication was enterovaginal fistula, which included rectovaginal fistula in 40 patients. Operations were needed to treat 27 patients with intestinal obstruction caused by adhesions, tumor invasion or radiation injury. Iatrogenic perforation of the colon was again not unusual and occurred in eight patients in this series (Table 2).

Anterior resection without a stoma (23 patients) or with a covering stoma (10 patients) were the most common operation procedures. Twelve operations were pelvic exenterations for primary gynecological malignancies or recurrences. Although stomas were usually the last choice for patients, 87 patients received a stoma during their first operation (Table 3). Forty-one complications of various types were encountered in 31 patients. Wound infection occurred in seven patients, respiratory failure occurred in six patients and intestinal obstruction and enterocutaneous fistula occurred in five patients each (Table 4). Postoperative death occurred in six patients (4.4%). Among these patients, terminal illness accounted for two deaths, while four patients died of associated complications (Table 5).

Table 5
Mortality related to surgery.

Cause of death	First period ($n = 137$)	Second period ($n = 145$)
Terminal disease	2	2
Sepsis	1	2
Respiratory failure	1	1
Enterocutaneous fistula	1	1

Five patients (3.6%) expired during the first 12-year period and six patients (4.4%) expired during the second 12-year period.

Discussion

Surgeons and gynecologists have different courses of training. Nonetheless, the obstetrical and gynecological organs are close to the bowel (intestinal tract), which is where colorectal surgeons frequently work. Not infrequently, diseases of these organ systems affect each other. As a result, a colorectal surgeon is not infrequently called upon to help with problems originating from gynecological diseases [1,2]. When a gynecological tumor invades the colon and rectum and necessitates a bowel resection, a colorectal surgeon is usually called upon to perform the bowel resection. However, if there is only superficial seeding or invasion of the intestine, this is usually handled by gynecologists themselves, without the help of a colorectal surgeon. It is difficult to estimate how many cases were handled in this manner over the last 24 years, because of the huge number of gynecological procedures performed. In this series, the problems that the colorectal surgeon was called upon most frequently to help with, were those involving the bowel in relation to gynecological malignancy [3–5]. The gynecologists in our institution would consult a colorectal surgeon in order to perform an endoscopic examination prior to surgery for the majority of patients with gynecological malignancies; this combined approach between gynecologists and surgeons helped with planning prior to surgery. However, an unexpected finding of bowel involvement was not that unusual and a colorectal surgeon would then be called upon to carry out a bowel resection under those circumstances. Urgent consultations are disliked, because they are unfair to patients who then have an unpredictable outcome; furthermore, it is also unpleasant for colorectal surgeons to perform anastomoses on an unprepared bowel. Cervical cancer, either primary or recurrent, used to be the number one killer of women in Taiwan and frequently involved the colon or rectum. A total of 85 patients during the first 12-year period and 87 patients during the second 12-year period were operated on for cervical cancer related problems. Since patients with cervical cancer were also frequently treated with radiation with or without surgery, enterocolitis resulting from radiation treatment was also a common problem that necessitated a surgeon's help [6,7]. There were 41 patients of this type operated on during the first 12-year period and 39 patients during the second 12-year period in the present series. The incidence of other malignancies, such as ovarian cancer, has been increasing in recent years and thus ovarian cancer related problems necessitating a colorectal surgeon's help might have increased over the years [4,5]. We agree that ovarian cancer now commonly involves the intestine, colon and rectum, however, very frequently, it is only superficial and does not need a bowel resection; this means that there is no role for the colorectal surgeon in such cases. While a gynecologist may be able to removal all visible tumors during debulking surgery for ovarian cancer, if their involvement penetrates into the bowel wall, gynecologists usually call upon a colorectal surgeon for help to perform the resectioning and anastomosis in our institution. There was no significant difference in the patients operated on for ovarian malignancies, either primary or

recurrent, when the two periods were compared in the series and it might take many more years before the true increase in ovarian cancer related problems can be appreciated.

Since direct colorectal invasion by tumor and enterovaginal fistulae are the main indications for surgery, it is not surprising that resection of the colorectum was the most frequent type of surgery, which was followed by an enterostomy, if reconstitution of the bowel was not possible. Although a stoma is usually the last choice for a patient, 101 patients in the first 12-year period and 87 patients in the second 12-year period did end up with a stoma after their first operation. The cooperation between colorectal surgeons and gynecologists has resulted in most surgeries being accomplished with acceptable morbidities and mortalities in various previously described series[8,9]. Extensive surgery, such as pelvic exenterations, was performed on six patients during the first 12-year period and on 12 patients during the second 12-year period; these were accomplished by minimal morbidity and only a single mortality.

Actinomycosis is a well known medical illness and it is not unusual to find actinomycosis involving the uterus, adnexa and bowel that results in bowel fistulae and obstructions. In these circumstances, a colorectal surgeon is usually consulted to help manage these bowel problems. Patients with an iatrogenic perforation of the colon in this series were patients who had bowel perforation following dilatation and curettage, following abdominal incision during open or laparoscopic laparotomy, etc. Iatrogenic injury of the bowel is a complication which might result in medical litigation [10,11]; nevertheless, nine patients in the first 12-year period and eight patients in the second 12-year period were managed without problems following early detection of such kind of injury.

Usually, invasion of the bowel by endometriosis does not require resectioning of the bowel [12]. One patient during the first 12-year period and four patients during the second 12-year period did need resectioning of the colorectum due to severe involvement of the bowel that had resulted in stricture and obstruction. Finally, one must always keep in mind that synchronous gynecological and colon cancer are possible and that management of only the gynecological problem might result in a delayed diagnosis of the colorectal malignancy and a subsequent poor prognosis. There were three patients in this category during the first 12-year period and two patients during the second 12-year period; all were managed successfully with synchronous resectioning of the colon and gynecological malignancies.

Gynecologists are frequently considered just to be a family doctor for women, and not capable surgeons. Surgeons frequently criticize gynecologists for not having good surgical knowledge and techniques, and for not knowing how to perform surgery well. However, in a harmonious world, a multidisciplinary team should be able to work together in order to manage a patient's problems. It is an honor to be available to help to fellow doctors and it is also an honor to respect others. A friend in need is a friend indeed. Although it can be seen that there have not been any major changes in the referral patterns, surgical techniques, and results when these two periods are compared, we still believe that colorectal surgeons are important to the management of gynecological problems. Colorectal surgeons need to be good friends with gynecologists and an intimate cooperation will result in most patients benefiting from this cooperation. This study had acceptable morbidities of 18.2% during the first 12-year period and 21.4% during the second 12-year period, as well as reasonable mortalities of 3.6% during the first 12-year period and 4.4% during the second 12-year period.

Conclusion

Gynecological problems frequently involve the colon or rectum. Cervical cancer related problems remain the most common type of problem that necessitate help from a colorectal surgeon. In spite of advances in surgical management, stomas are still frequently unavoidable in order to cure a patient or improve a patient's quality of life. Appropriate management of problems related to gynecology by colorectal surgeons remains in the best interests of the patient.

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References

[1] Szucs RA, Turner MA. Gastrointestinal tract involvement by gynecologic disease. Radiographics 1996;16:1251–70.
[2] Chow SN, Chen M. Tuboovarian abscess mimicking malignancy: report of two cases. J Formos Med Assoc 2000;99:779–82.
[3] Theodosopoulos T, Marinis A, Yiallourou A, Dafnios N, Kondi-Pafiti A, Vassiliou I, et al. Extraovarian peritoneal serous papillary carcinoma mimicking colonic obstruction. Eur J Gynecol Oncol 2008;29:502–4.
[4] Salani R, Diaz-Montes T, Giuntoli RL, Bristow RE. Surgical management of mesenteric lymph node metastasis in patients undergoing rectosigmoid colectomy for locally advanced ovarian carcinoma. Ann Surg Oncol 2007;14:3552–7.
[5] Takahashi O, Sato N, Miura Y, Ogawa M, Fujimoto T, Tanaka H, et al. Surgical indications for combined partial rectosigmoidectomy in ovarian cancer. J Obstet Gynecol Res 2005;31:556–61.
[6] Harling H, Balslev I. Long-term prognosis of patients with severe radiation enteritis. Am J Surg 1988;155:517–9.
[7] Hayne D, Vaizey CJ, Boulos PB. Anorectal injury following pelvic radiotherapy. Br J Surg 2001;88:1037–48.
[8] Pandey D, Zaidi S, Mahajan V, Kannan R. Pelvic exenteration: a perspective from a regional cancer center in India. Indian J Cancer 2004;41:109–14.
[9] Mitulescu G, Ungureanu C, Gluck G, Stingu C, Mitulescu D, Stanculeanu D, et al. Total pelvic exenterating in the treatment of advanced pelvic cancer. Chirurgia (Bucur) 2007;102:143–54.
[10] Chen CP, Hsu TC, Wang W. Ileal penetration by a multiload-Cu 375 intrauterine contraceptive device. Contraception 1998;58:295–304.
[11] Mendez LF. Iatrogenic injuries in gynecologic cancer surgery. SCNA 2001;81:897–923.
[12] Bailey HR, Ott MT, Hartendorp P. Aggressive surgical management for advanced colorectal endometriosis. Dis Colon Rectum 1994;37:747–53.