

Palliative pelvic exenteration for patients with gynecological malignancies

Gustavo Cardoso Guimarães · Glauco Baiocchi · Fabio Oliveira Ferreira ·
Lillian Yuri Kumagai · Carlos Chaves Fallopa · Samuel Aguiar ·
Benedito Mauro Rossi · Fernando Augusto Soares · Ademar Lopes

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Abstract

Purpose To evaluate the results of palliative pelvic exenteration in patients with gynecologic tumors.

Methods A retrospective analysis was carried out in 13 patients from January 2000 to December 2007. The procedure was considered palliative because of distant metastatic disease or unresectable pelvic wall disease. Patients presented with bleeding, fistula, malodorous discharge or untreatable pain.

Result Overall complication rate was 38.4%. Mean follow-up time was 8 months. Actuarial 2 years overall survival was 15.4%. Six patients survived more than 5 months and three more than 12 months. All achieved symptoms control and favorable impact in quality of life. Two patients are with stable disease after 26 and 28 months.

Conclusions Palliative exenteration is a procedure with high morbidity and mortality rates and should only be offered to highly selected patients. The role of exenterative surgery in relieving severe symptoms in patients with incurable disease is yet to be established.

Keywords Pelvic exenteration · Gynecologic neoplasm · Palliative surgery · Palliative treatment

Introduction

Pelvic exenteration refers to radical en-bloc resection of multiple endopelvic and exopelvic organs, followed by surgical reconstruction to re-establish the abolished visceral and parietal functions [1]. This procedure was first reported by Alexander Brunschwig [2] in 1948 for treatment of persistent or recurrent gynecological cancer. It was indicated for patients with advanced pelvic tumors that did not respond to radiotherapy and who suffered from associated pain, fistula or infection. Perioperative mortality rate at the time was 23%, but recently it has decreased to 2–14% because of better perioperative management including antibiotic therapy, intensive care monitoring, thromboembolic prophylaxis and safer blood transfusion [3–14].

Over the last 50 years, the indications and classification of pelvic exenteration have changed and adapted to new technologies. Regarding primary intention of the exenterative surgical treatment, it can be classified as curative or palliative intent.

Palliative pelvic exenteration remains controversial because of its high morbidity and mortality rates. Although treatment-related mortality has dropped to less than 5%, severe morbidity remains above 30% in most series.

Patients and methods

A retrospective analysis was carried out in a series of 13 individuals with advanced gynecological cancer admitted

G. C. Guimarães (✉) · F. O. Ferreira · S. Aguiar ·
B. M. Rossi · A. Lopes
Department of Pelvic Surgery, A. C. Camargo Cancer Hospital,
Rua Prof. Antonio Prudente, 211, Liberdade,
São Paulo, SP 01509-010, Brazil
e-mail: guimaraesgc@gmail.com

G. Baiocchi · L. Y. Kumagai · C. C. Fallopa
Department of Gynecology, A. C. Camargo Cancer Hospital,
Rua Prof. Antonio Prudente, 211, Liberdade,
São Paulo, SP 01509-010, Brazil

F. A. Soares
Pathology Department, A. C. Camargo Cancer Hospital,
Rua Prof. Antonio Prudente, 211, Liberdade, São Paulo,
SP 01509-010, Brazil

at the A. C. Camargo Cancer Hospital from January 2000 to December 2007.

All patients presented with bleeding, fistula, malodorous discharge or untreatable pain and underwent pelvic exenteration with palliative intent. The procedure was classified as palliative due to at least one of the following reasons: distant visceral disease, retroperitoneal lymph node metastasis, peritoneal implants or unresectable pelvic disease and performed for palliation of symptoms or treatment of fistulas.

Results

Data concerning clinical and pathological features are summarized in Table 1.

Median age was 58 years (range 29–93). Primary tumor sites were uterine cervix in 9 cases—69.2% (6 epidermoid carcinomas and 3 adenocarcinomas) and uterine corpus in 4 cases—30.8% (2 endometrioid adenocarcinomas and 2 leiomyosarcomas). All cases were recurrent tumors.

Total pelvic exenteration was performed in all patients. In 12 patients (92.3%), the double-barreled wet colostomy was chosen as the diversion procedure because of our previous experience with this method [15] and only one patient underwent both urinary conduit diversion and terminal colostomy.

Mean operative time was 360 min (range 120–600, median 400 min) and median hospital stay was 15 days (range 8–63). Blood transfusion was required in 12 cases, with a median volume of 900 ml. Patients were categorized as American Society of Anesthesiologists classification (ASA) II in five cases, ASA III in seven and ASA IV in one patient. Overall complication rate was 38.4%.

Follow-up time ranged from 8 days to 28.78 months (mean 8 months). Actuarial 2 years overall survival was 15.4% (Fig. 1), and cancer specific survival was 20.5% in 2 years (Fig. 2). At the end of the follow-up, two patients were alive with stable disease, eight patients died from cancer, two (15%) had perioperative related death (one case had central venous catheter infection and the other had a pelvic abscess, both developed unresponsive sepsis) and one patient died of other cause unrelated to treatment 2 months later. Six patients survived more than 5 months and three survived more than 12 months. Two patients with stable disease are alive at 26 and 28 months of follow-up after chemotherapy treatment (both cervical cancers, one with retroperitoneal and the other with pulmonary disease). One patient died from cancer at 19 months of follow-up. In this group, two patients died from perioperative-related causes and those deaths occurred in high-risk surgical patients. All patients achieved control of their symptoms, with improved pain

Table 1 Clinical and pathological data from 13 patients submitted to palliative pelvic exenteration

Patient	Age (years)	Tumor site	Histologic type	ASA	Symptom for palliation	Operative time (min)	Blood transfusion (ml)	Status
1	49	Cervical cancer	Adenocarcinoma	2	Fistula	525	2,100	Death from cancer
2	29	Cervical cancer	Epidermoid carcinoma	2	Fistula	540	1,800	Death from cancer
3	65	Cervical cancer	Epidermoid carcinoma	2	Untreated pain, malodorous, bleeding	400	900	Death from cancer
4	49	Cervical cancer	Adenocarcinoma	2	Untreated pain, fistula	120	600	Death from cancer
5	58	Cervical cancer	Epidermoid carcinoma	3	Fistula	330	0	Death from cancer
6	93	Cervical cancer	Epidermoid carcinoma	4	Fistula	120	600	Death from another cause
7	60	Cervical cancer	Adenocarcinoma	3	Untreated pain, bleeding	420	1,200	Alive with stable disease
8	49	Cervical cancer	Epidermoid carcinoma	3	Fistula	225	1,200	Alive with stable disease
9	55	Cervical cancer	Epidermoid carcinoma	3	Malodorous, untreated pain	240	600	Death from cancer
10	70	Uterine corpus	Endometrioid adenocarcinoma	3	Fistula	300	300	Death from cancer
11	69	Uterine corpus	Leyomyosarcoma	3	Untreated pain, malodorous, bleeding	600	2,100	Perioperative related death
12	48	Uterine corpus	Endometrioid adenocarcinoma	3	Fistula	470	1,500	Death from cancer
13	59	Uterine corpus	Leyomyosarcoma	2	Fistula	430	900	Perioperative related death

management proven by withdrawal of opioids and control of malodorous discharge, resulting in major impact in quality of life.

Discussion

Locally advanced and recurrent gynecological cancers can cause severe symptoms with a major effect on patient's quality of life, including visceral and parietal pain, symptoms of urinary and fecal obstruction, urinary and fecal fistulas, bleeding and malodorous discharge. Pelvic exenteration was initially described to relieve these symptoms.

This group of patients has a very poor quality of life secondary to expansive tumor extruding from the vagina, extensive necrosis of pelvic viscera, unbearable malodorous discharge and unmanageable hygiene. For these patients, pelvic exenteration might be the only option for palliation of their symptoms [16].

Exenteration is a major surgery with long operating time that may range from 5 to 14 h [3, 4, 6, 9, 11], great blood loss (2,300 to 4,000 cm³) [3, 6, 11–13, 16, 18] and a prolonged hospital stay [3, 9]. Despite recent improvements in surgical techniques and perioperative monitoring, patients still have high perioperative mortality (2–14%) [3–14] and morbidity (33–75%) [3–5, 7–9, 17], which are higher in patients submitted to total exenteration who have had previous radiotherapy [1, 5–7, 9]. Indications for this extensive surgical procedure must be carefully assessed,

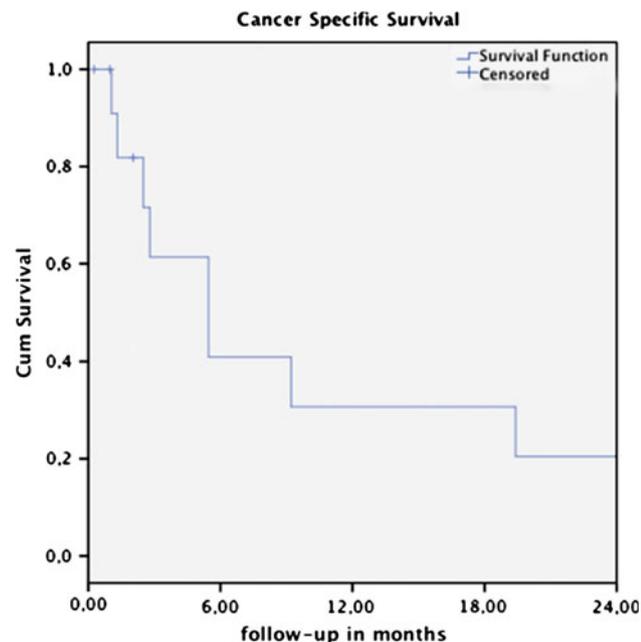


Fig. 1 Cancer specific survival of 13 patients submitted to palliative pelvic exenteration

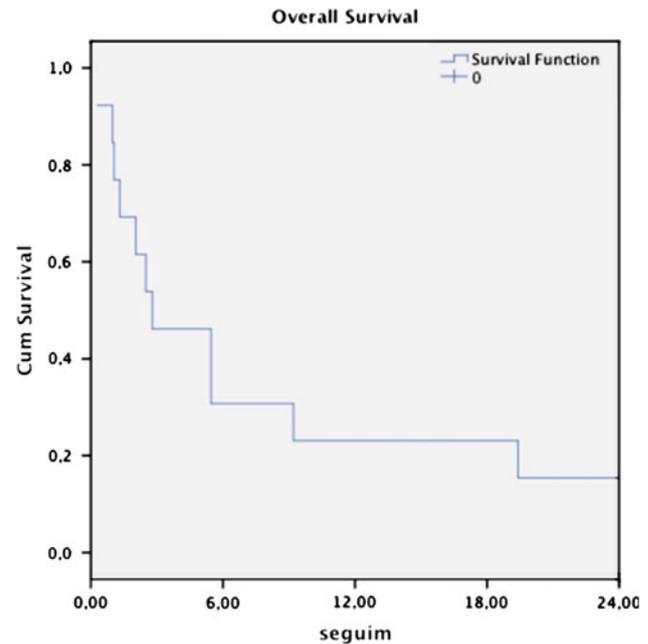


Fig. 2 Overall survival of 13 patients submitted to palliative pelvic exenteration

and patients have to be counseled thoroughly prior to surgery.

Definition of palliative exenteration and its indications are unclear. Exenteration is considered palliative in the presence of distant metastasis or peritoneal tumor spread, positive para-aortic lymph nodes or when complete tumor removal cannot be achieved (bone or pelvic side wall extension) [6, 13] and no additional curative therapy is available after surgery. Lack of proper documentation of efficacy and effectiveness is a substantial problem in palliative pelvic exenteration.

Many surgeons define palliative surgery [18, 19] as an operative or invasive procedure that alleviates symptoms and improves quality of life, with minimal impact on overall survival. However, if decreased survival resulting from surgery might be accepted, questions of moral relevance are evident.

World Health Organization emphasizes that palliative care neither hastens nor postpones death, but provides relief from distressing symptoms and that surgery has a place in palliative care when the benefits outweigh any disadvantages [20].

There are authors who claim that this limited definition excludes an important subset of patients, who are initially offered curative treatment, but during surgery the procedure's intent becomes palliative. Therefore, it is not easy to define palliative surgery. These definitions are related to both epistemological and also ethical challenges, and therefore, some authors address these challenges by defining palliative surgery as any invasive procedure whose primary

intent is to mitigate physical symptoms in patients with incurable disease, without causing premature death [21].

Surgery represents a potentially valuable form of palliation for a particularly vulnerable group of patients. It is of great importance that patients are not exposed to futile or detrimental treatment and are offered the best possible palliative surgery (optimal timing and appropriate procedures with low rates of complications), which requires sensibility and precaution. Those patients with short expected lifetime and high operation-related risk should be considered for non-operative procedures.

Our definition of palliative surgery is similar to how many other authors describe an operative or invasive procedure that alleviates symptoms and improves quality of life.

As we stated previously, research on palliative surgery has suffered from inconsistent definitions [22–24]. It has been defined in terms of preoperative intent, individual patient prognosis and postoperative status. Relief of pain and symptoms are regarded as the two most important goals, whereas increased patient survival is the least important goal.

Magrina et al. [8] defined an exenteration as palliative when tumor extends to the pelvic or para-aortic lymph nodes or lateral pelvic wall. In their report, palliative exenteration did not increase perioperative complications. However, survival was lower when compared to patients who underwent curative exenteration. The 5-year survival rate in their series was 27% with palliative intention and 50% with curative intention. Stanhope and Symmonds [13], retrospectively, reviewed 59 patients who underwent palliative pelvic exenteration in the presence of pelvic or para-aortic lymph node metastasis, pelvic side involvement, bone involvement or distant metastases. They demonstrated a 46% 2-year survival rate and 23% 5-year survival rate with pelvic nodal involvement. Median survival for the total group was 19 months, with 47% surviving more than 2 years and 17% surviving more than 5 years.

Lambrou et al. [16] considered tumor-related fistula, therapy-resistant hemorrhagic cystitis and/or proctitis or an unacceptable quality of life as indications for palliative exenteration.

Marnitz et al. [25] demonstrated a 2-year overall survival of 10.5% for patients submitted to palliative exenteration and 60% for patients with curative intention ($p = 0.0001$).

Chemotherapy might be an alternative to palliative exenteration. Despite achieving good response rates, they are mostly partial and transitory. Median survival of patients who undergo palliative chemotherapy for recurrent cervical cancer varies from 8 to 11 months [26–29]. It is also argued that exenteration should not be regarded as a

palliative intervention since satisfactory recovery takes 3–6 months, and patients with residual tumor might not survive long enough to benefit significantly from the operation [14]. However, 67–90% of patients report relief of symptoms or an improved quality of life following palliative exenteration [1, 13, 14, 23]. Thus, decision for or against palliative exenteration has to be made with caution for each individual patient.

Although controversial, palliative exenteration is the only method that might offer long-term survival in highly selected patients (10.5–27% 2-year specific cancer survival) (Table 2).

In our data, operative time and blood transfusion volume were acceptable and similar to literature data. However, this sort of surgery represents a complex procedure with high morbidity and mortality rates. Patients with better clinical conditions obtained symptoms control and an acceptable quality of life for a period beyond 5 months and two patients are alive with stable disease at 26 and 28 months of follow-up.

The decision to perform exenteration in these patients was made by a particularly large number of patients with complex fistulas in whom only derivation procedures would offer poor relief and would not completely solve the problem of fistula secretion, by the belief that pain control would be more appropriate and by decision of patients after extensive explanation about therapeutic possibilities.

Our group's large experience on double-barreled wet colostomy made it the procedure of choice for high-risk patients that needed double diversion [15].

The urge to help is a basic moral impetus in medicine. However, it has been challenged by reports on overtreatment and futile treatment. Palliative surgical oncology is an area in which the urge to help must be balanced against ethical principles, such as non-maleficence and beneficence [30]. Particularly, palliative surgery in oncological patients should not be offered to meet emotional, existential and psychological needs so that they do not feel 'given up' or lose their hope [21].

Providing cancer patients with 'true information' without destroying their hope is one of the most common moral

Table 2 Cancer specific survival for palliative pelvic exenteration

Author	Year	2-year SCE (%)	5-year SCE (%)
Magrina [8]	1997		27
Stanhope [13]	1985	46	23
Marnitz [25]	2006	10.5	
Current series	2009	20.5	

SCE specific cancer survival

dilemmas and emotional challenges regarded in palliative surgery [18].

Conclusions

Palliative exenteration is a procedure with high morbidity and mortality rates that should only be offered to highly selected patients and might offer symptoms control and acceptable quality of life.

The only way to define the role of exenterative surgery in relieving severe symptoms from pelvic tumors in patients with incurable disease is conducting a prospective comparison to other established treatment options (chemotherapy, re-irradiation, systematic analgesia and surgical diversion) with validated instruments of quality of life.

Palliative surgery for patients with advanced malignant disease demands more than individual surgical skills. It urges moral education and ethical reflection by all who provide treatment, as well as sensibility to the patient's physical, emotional and existential condition. Palliative surgery is a challenging topic regarding physician–patient interaction.

Although controversial, palliative exenteration might be the only method that can offer long-term survival in highly selected patients.

Conflict of interest statement None.

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