# When to perform palliative surgery in the treatment of ovarian cancer: a brief review

**A. Urbano-Ruiz[1], J. M. Soares Jr[2], E. Vieira da Motta[3], P. Granuzzo[4], C. Carneiro Julião[4], E. Chada Baracat[3]**

*[1]Centro Oncológico Antônio Ermírio de Moraes, Beneficência Portuguesa em São Paulo, São Paulo*
*[2]Disciplina de Endocrinologia Ginecológica do Departamento de Ginecologia da Universidade Federal de São Paulo, São Paulo*
*[3]Disciplina de Ginecologia do Departamento de Obstetrícia e Ginecologia da Faculdade de Medicina da Universidade de São Paulo, São Paulo*
*[4]Faculdade de Medicina da Universidade Anhembi, Morumbi, São Paulo (Brazil)*

**Summary**

The objective of this review was to address the main indications for palliative surgery in the treatment of ovarian cancer. *Design*: Articles from MEDLINE/PUBMED, EMBASE, and LILACS databases up to May 05, 2012 were included with no bars on foreign languages. The key words used were taken from the Medical Subject Headings and were as follows: ovarian cancer AND palliative surgery, ovarian cancer AND complications, and ovarian cancer AND intestinal obstruction. Subsequently, the references from the original articles were also analyzed. Results: Among the complications developing in the course of malignant neoplasia, intestinal obstruction stands out as the main indication for palliative surgery, which may also be indicated for rectovaginal and enterovaginal fistulas, as well as for genital and lower gastrointestinal hemorrhage. *Conclusion*: Although incurable, the patients with complications due to ovarian cancer may have an extended survival and an improved quality of life with palliative surgery for the following reasons: a) improvement in the nutritional state after treatment for intestinal obstruction due to the possibility of oral nutrition; and b) improvement in clinical conditions, allowing for palliative chemotherapy.

*Key words:* Ovarian cancer; Ovarian neoplasia; Treatment; Palliative surgery.

## Introduction

Ovarian cancer is the fourth most frequent neoplasia in women, with 22,280 newly diagnosed cases and 15,550 mortality cases are projected in the U.S.A. for 2012 according to the American Cancer Society [1]. Ovarian cancer spreads on the peritoneal surface with no regard for the anatomical boundaries of the pelvic and abdominal organs and viscera [2]. Thus, when diagnosed, most cases are advanced and peritoneal carcinomatosis is already present and patients have stage IIIC/IV (FIGO)/TNM epithelial ovarian cancer (AJCC 2010) [3,4].

Despite a surgical treatment that ideally removes all of the visible peritoneal disease leaving lesions no larger than 10mm each (optimal cytoreduction) and notwithstanding the advances in adjuvant chemotherapy, many patients will relapse and be considered incurable. Gastrointestinal tract surgeries are performed not only for cytoreduction, the so-called multivisceral resection, but also for palliative purposes.[5] Thus, palliative surgery is that which is performed on incurable patients and is of great help in accomplishing the objective of reducing the patient's suffering. Therefore, it is essential that the surgeon who plans to treat ovarian cancer have the mastery of several surgical procedures, which are often outside the range of gynecological surgery per se [5-7].

Among the complications resulting from the progression of malignant neoplasia, intestinal obstruction stands out as the main indication for palliative surgery, which may also be indicated for rectovaginal and enterovaginal fistulas as well as for genital and lower gastrointestinal hemorrhage.

## Materials and Methods

Articles from the MEDLINE/PUBMED, EMBASE, and LILACS databases up to May 05, 2012 were included with no bars on foreign languages. The key words used were taken from the Medical Subject Headings and are as follows: ovarian cancer AND palliative surgery, ovarian cancer AND complications, and ovarian cancer AND intestinal obstruction. Subsequently, the references from the original articles were also analyzed.

## Results

### *Intestinal Obstruction*

Intestinal obstruction is a common feature of ovarian cancer in its advanced stages or in its recurrence. Most of the patients with an obstructed intestine have a poor physical health status and limited life expectancy [8].

The primary cause of intestinal obstruction is the frozen pelvis with involvement of the sigmoid colon and the rectum along with the loops of the small intestine. Although obstruction may occur anywhere in the digestive tract, a list of intestinal obstruction sites, according to Stephen [9], includes the small intestine (44%), the large intestine (33%), and the simultaneous occurrence of the small and large intestine (22%). The main surgeries are enterectomy (Figure 1A), ileotransverse anastomosis (Figure 1B), transverse or terminal

Revised manuscript accepted for publication March 14, 2013

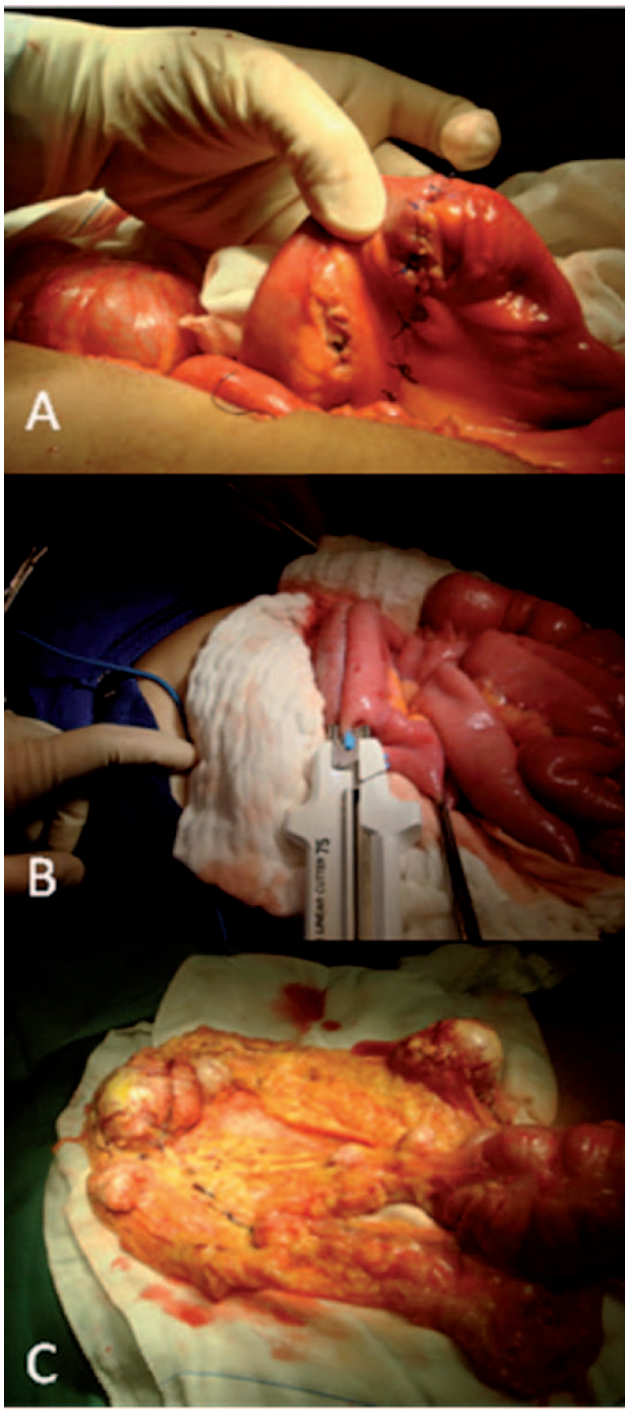


Figure 1. – Technical aspects of palliate surgery: A: enterectomy and enteroanastomosis; B: bypass ileotranversoanastomosis; C: omentectomy.

sigmoid colostomy, and omentectomy (Figure 1C). The latter is performed in order to leave the entire upper colon free so as to allow a clear view of the entire digestive tract. And thus median laparotomy is carried out aiming to make an inventory of the entire abdominal cavity so as to diagnose all possible obstruction sites and determine a safe point, beyond

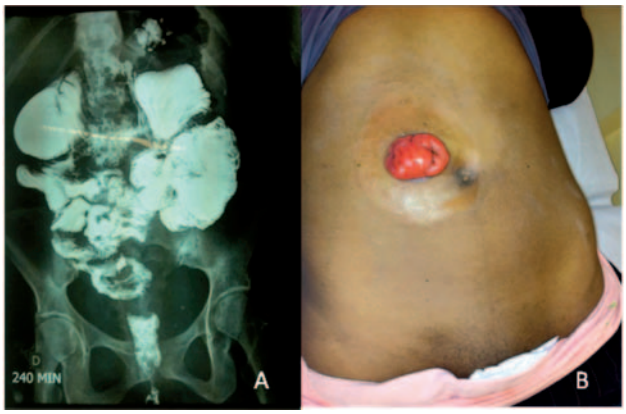


Figure 2. – A: contrast radiography demonstrating enterovaginal fistula; B: colostomy.

which it is disease-free (usually up to the transverse colon, for the pelvis is frozen more often than not).

When the disease is very advanced and surgical correction of the obstruction is no longer possible, a decompressive gastrostomy may be performed or nothing at all may be done. An ileostomy is contraindicated because of its extremely high rate of incurability and morbidity for the patients. At the time of deciding whether or not to perform palliative surgery, bad prognostic factors should be taken into account, such as palpable abdominal and pelvic masses, more than three liters of ascites, multiple obstructions, a preoperative weight loss of over nine kg, and recent chemo- or radiotherapy [10].

*Intestinal fistulas*

Digestive fistulas are rarely formed in cases of ovarian cancer; nevertheless, the most frequent are those connecting the small intestine or the rectum and the vagina [11-15].

The discharge of solid feces through the vagina is characteristic of the rectovaginal fistula, which must be treated with loop transverse colostomy. A few authors advocate a loop sigmoid colostomy, but we favor a loop transverse colostomy due to the high incidence of frozen pelvis and because the former procedure often requires great technical skill and a laparotomy to perform the colostomy on the sigmoid.

Although a loop transverse colostomy is a more frequent cause of complications such as prolapse and paracolostomy hernias, it does not necessitate a laparotomy and it may be performed with a local incision (Figure 2A).

To minimize complications, technical care must be taken not to leave free space between the colostomy and the wall and a careful choice of site on the abdominal wall must be made for maturation of the stoma.

When the discharge through the vagina is profuse and liquid and made up of enteric effluent, the enterovaginal fistula should be investigated. Diagnosis is generally carried out with computed tomography assessing the intestinal transit of an oral contrast agent (Figure 2B). An opaque enema CT

scan should also be performed to rule out the possibility of an associated rectovaginal fistula. The treatment for the fistula of the small intestine is resection of the fistulous pathway with enterography and enterectomy. [11-15].

*Genital and rectal bleeding*

In lower gastrointestinal bleeding, enterorrhagia generally occurs through tumor infiltration in the sigmoid colon and the rectum. When feasible, a resection of the infiltrated site is the only treatment for stopping the often recurrent hemorrhage [11-15].

In the cases of profuse vaginal bleeding, the bilateral hypogastric artery ligation performed three cm below the source of hemorrhage to avoid the origin of the superior gluteal artery is the indicated treatment when interventional radiology is not available for embolization [11-15].

## Conclusions

A large number of women with advanced ovarian cancer will require surgery at some point during the course of the disease to relieve the symptoms, such as intestinal obstructions, fistulas, and hemorrhages.

Although incurable, the patients with complications due to ovarian cancer may have an extended survival and an improved quality of life with palliative surgery for the following reasons: a) improvement in the nutritional state after treatment for intestinal obstruction due to the possibility of oral nutrition; and b) improvement in clinical conditions, allowing for palliative chemotherapy.

## References

[1] http://www.cancer.org/Cancer/OvarianCancer/DetailedGuide/ovarian-cancer-key-statistics. Accessed May 2012.

[2] Pickel H.: "Spread of ovarian carcinoma". In: Burghardt E., Webb M.J., Monoghan J.M., Kindermann G., (eds). Stuttgart, Germany: Thieme, 1993, 435.

[3] FIGO Committee on Gynecologic Oncology.: "Current FIGO staging for cancer of the vagina, fallopian tube, ovary, and gestational trophoblastic neoplasia". *Int. J. Gynaecol. Obstet*., 2009, *105*, 3.

[4] Tamussino K.F., Lim P.C., Webb M.J., Lee R.A., Lesnick T.G.: "Gastrointestinal surgery in patients with ovarian cancer". *Gynecol. Oncol*., 2001, *80*, 79.

[5] Kucukmetin A., Naik R., Galaal K., Bryant A., Dickinson H.O.: "Palliative surgery versus medical management for bowel obstruction in ovarian cancer". *Cochrane Database Syst. Rev.,* 2010, *7*, CD007792 doi: 10.1002/14651858.CD007792.pub2.

[6] Urbano-Ruiz A., Soares J.M. Jr., Rossi A.G., Louback R.M., Hummel F.V., Baracat E.C.: "Female pelvic pain: a case report of mucocele of the appendix". *Eur. J. Gynaecol. Oncol*., 2011, *32*, 672.

[7] Pinheiro W., Pereira A.K., Soares J.M. Jr., Baracat E.C.: "Is the combination of mitomycin C, bleomycin and methotrexate effective as a neoadjuvant treatment for cervical cancer in women?" *Eur. J. Gynaecol. Oncol*., 2011, *32*, 37.

[8] Rubin SC, Hoskins WJ, Benjamin I, Lewis JL Jr.: "Palliative surgery for intestinal obstruction in advanced ovarian cancer". Gynecol. Oncol., 1989, 34, 16.

[9] Jong P., Sturgeon J., Jamieson C.G.: "Benefit of palliative surgery for bowel obstruction in advanced ovarian cancer". *Can. J. Surg.,* 1995, *38*, 454.

[10] Yahagi N., Kobayashi Y., Ohara T., Suzuki N., Kiguchi K., Ishizuka B.: "Ovarian carcinoma complicated by sigmoid colon fistula formation: a case report and review of the literature". *J. Obstet. Gynaecol. Res*., 2011, *37*, 250.

[11] Barbera L., Elit L., Krzyzanowska M., Saskin R., Bierman A.S.: "End of life care for women with gynecologic cancers". *Gynecol Oncol*., 2010, *118*, 196.

[12] Yahagi N., Kobayashi Y., Ohara T., Suzuki N., Kiguchi K., Ishizuka B.: "Ovarian carcinoma complicated by sigmoid colon fistula formation: a case report and review of the literature". *J. Obstet. Gynaecol. Res*., 2011, *37*, 250. doi: 10.1111/j.1447-0756.2010.01341.x

[13] Jeon H.M., Kim J.S., Oh S.T., Kim K.H., Ahn B.Y., Lee E.J.: "Ileorectal fistula complicating advanced ovarian carcinoma". Oncol. Rep., 1999, 6, 1243.

[14] Lawhead R.A. Jr., Clark D.G., Smith D.H., Pierce V.K., Lewis J.L. Jr.: "Pelvic exenteration for recurrent or persistent gynecologic malignancies: a 10-year review of the Memorial Sloan-Kettering Cancer Center experience (1972-1981)". *Gynecol. Oncol.,* 1989, *33*, 279.

[15] Boiselle J.C., Dournova P., de Montalier H., Job C.: "Uretero-intestinal fistula. Report of a new case and review of the literature". *Ann. Chir.,* 1976, *30*, 793.

Address reprint requests to:
A. URBANO RUIZ, M.D.
Rua Dr. José Cândido de Sousa, 184
CEP: 18050, São Paulo (Brazil)
e-mail: urbruiz@terra.com.br