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Posterior pelvic exenteration in advanced stage ovarian cancer – a case series

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ABSTRACT

Due to the anatomical location of the ovaries, in the close proximity of the rectosigmoidian loop, local invasion of this segment is frequently encountered especially in cases presenting peritoneal carcinomatosis of the Douglas pouch. The aim of the current paper is to report a case series of 16 patients diagnosed with ovarian cancer and rectosigmoidian invasion submitted to surgery with curative intent. In all cases resection to no residual disease was achieved. Due to the advanced level of rectal invasion, anastomosis was not performed, in all cases the continuity of the digestive tract being reestablished through left colostomy. In conclusion in certain cases presenting locally invasion of the nodules of peritoneal carcinomatosis, modified posterior exenteration might be needed.

Keywords: posterior pelvic exenteration, rectosigmoidian invasion, peritoneal carcinomatosis, ovarian cancer

INTRODUCTION

Ovarian cancer represents one of the most deathful malignancies affecting women worldwide, also known as a silent killer due to the fact that it remains asymptomatic for a long period of time and therefore, it is frequently diagnosed in advanced stages of the disease when disseminated lesions are already present [1,2]. When it comes to the most important patterns of spread in such cases, they are represented by the peritoneal, lymphatic and hematogenous route [3-5]. As for the peritoneal route, once the tumoral cells reach the ovarian surface and destroy it, they will reach into the peritoneal fluid at the level of the peritoneal cavity and will lead to the development of disseminated nodules of peritoneal carcinomatosis, initially at the level of the Douglas pouch and at the level of the diaphragmatic peritoneum and therefore anywhere at the level of the peritoneal surface [6,7]. However, due to the presence of the gravitational forces, a significant tumoral mass might develop at the level of the Douglas pouch, imposing association of rectosigmoidian resections [8-10]. The aim of the current paper is to report a case series of 16 patients diagnosed with rectosigmoidian invasion and peritoneal carcinomatosis from ovarian cancer.

MATERIAL AND METHODS

Between August 2021 and December 2021 21 patients with stage IIIC ovarian cancer and rectosig-

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moidian involvement were submitted to surgery in Cantacuzino Clinical Hospital; among these cases in six patients superficial nodules were present, making possible a peritoneal resection of the Douglas pouch, without resection of a digestive segment. In all the other cases deep invasion of the rectosigmoidian pouch imposed performing a modified posterior exenteration.

RESULTS

The mean age at the time of surgery was of 57 years (ranging 38-73 years) while the mean serum level of CA 125 was of 2213 U/ml ranging 1221 – 3120 U/ml. In eight cases peritoneal nodules of carcinomatosis at the level of the Douglas pouch were found while in the other 13 cases direct involvement of the rectosigmoidian loop which was found to be directly invaded was found. In six out of the eight cases peritoneal pouch resection was successfully performed, rectosigmoidian preservation being possible. In all the other cases the presence of deep rectosigmoidian infiltration imposed performing a colorectal resection. In all cases a total hysterectomy with bilateral adnexectomy, pelvic and para-aortic lymph node dissection, pelvic peritonectomy and omentectomy were associated. Meamwhile, in six cases segmental enteral resection was needed due to the presence of peritoneal nodules of carcinomatosis invading an ileal loop. In seven cases parietal peritonectomy was associated while in two cases diaphragmatic peritonectomy was associated. In four cases visceral resections were needed and consisted of splenectomy in two cases, distal pancreatectomy en bloc with splenectomy in one case and atypical liver resection in one case. In all cases debulking surgery to no residual disease was possible.

The mean length of the surgical procedure was of 210 minutes (range 180-320 minutes) while the mean blood loss was of 1200 ml; the mean number of transfused red blood cell units was of 3 (range 1-4) while the mean hospital in stay was of 10 days (range 6-31 days). Postoperatively two patients necessitated prolonged intensive care unit stay due to respiratory disfunctions while in other two cases reoperation was needed due to postoperative bleeding – in one case and respectively due to the development of a pelvic abscess. In all cases submitted to posterior pelvic exenteration the proximal end of the colon was exteriorized in left colostomy. The postoperative 30 days mortality rate was null.

DISCUSSIONS

Initially conceived as a palliative procedure by Brunschwig et al, pelvic exenteration has been initially performed in order to alleviate the symptoms and complaints of patients diagnosed with locally advanced or recurrent pelvic malignancies [11-13]. However, besides the palliative effects of the procedure, in certain cases a benefit in terms of survival was reported, therefore demonstrating that it should be reconsidered. In this respect, once the surgical techniques improved and so did the perioperative management of these cases, pelvic exenteration was rather transformed into a radical procedure, aiming to increase the chances for long term survival. As expected, pelvic exenteration has been more commonly performed for locally advanced or relapsed cervical, rectal, urinary bladder or vulvo-vaginal cancer, the procedure has been also reported in advanced stage or relapsed ovarian cancer [12,13].

When it comes to ovarian cancer, the anatomical location of the ovaries in the close proximity to the rectum explains why rectosigmoidian involvement is not an intraoperative surprise especially in cases diagnosed in advanced stages of the disease [14]. In such cases invasion through contiguity or through the presence of nodules of peritoneal carcinomatosis imposes performing of an en bloc resection of the uterus, adnexae and rectosigmoidian loop respecting therefore the rules of a posterior pelvic exenteration. Meanwhile, when performed with curative intent (defined as the absence of any residual disease) modified posterior exenteration is associated with significant rates of overall survival ranging between 25 and 50 months [15-17].

However, it should not be omitted the fact that pelvic exenteration remains a demanding procedure which is associated with significant rates of perioperative complications such as digestive leaks, pelvic abscesses, bowel obstruction or embolic events [18]. Therefore, four out of the 15 patients included in the present study experienced postoperative complications, two of them needing reoperation. However, the overall mortality rate was null, demonstrating the safety and effectiveness of this surgical procedure.

CONCLUSIONS

Cases diagnosed with advanced stage ovarian cancer might need association of multiple visceral resections in order to achieve complete debulking surgery; among these resections, rectosigmoidectomy is a commonly reported one, creating therefore the premises to perform a posterior pelvic exenteration whenever deep rectal infiltration is present. Although initially it has been considered that pelvic exenteration is a palliative procedure, improvement of the surgical techniques and perioperative management of these cases transformed it into a procedure with curative intent and good hope of long term survival especially if no residual disease is

achieved. In particular, cases diagnosed with advanced stage ovarian cancer might benefit from modified posterior exenteration, long term survival being achieved. However, we should not omit the fact that a difficult postoperative course might be encountered.

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