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Distal gastrectomy as part of debulking surgery for advanced stage ovarian cancer

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ABSTRACT

Ovarian cancer is characterized through a high capacity of spread via multiple pathways such as peritoneal, hematogenous or lymphatic route. Therefore, upper abdominal involvement might be encountered; in such cases extended visceral resections might be needed in order to achieve radical cytoreductive surgery. The aim of the current paper is to report the cases of three patients diagnosed with extended upper abdominal lesions and in which distal gastrectomy was successfully associated. Postoperatively a single case developed a postoperative leak which was successfully treated in a conservative manner. In all cases the histopathological studies demonstrated the presence of tumoral involvement of the gastric wall. In conclusion, gastrectomy can be safely associated as part of debulking surgery for advanced stage ovarian cancer in order to increase the chances to obtain long term survival.

Keywords: advanced stage ovarian cancer, distal gastrectomy, debulking surgery

INTRODUCTION

The presence of upper abdominal involvement has been considered for a long period of time the sign of a particularly aggressive biology of the tumor and enabled surgeons to consider that resection has no benefit. However, in time, improvement of the upper abdominal surgical techniques leaded to the successful association of extended resections at this level without increasing the risks of perioperative morbidity and mortality [1-3]. Therefore, complex procedures such as hepatectomy, pancreatectomy, splenectomy, parcelar, distal or even total gastrectomy have been added as part of the debulking effort with acceptable rates of perioperative complications. Meanwhile, whenever complete debulking was feasible, it was associated with significant benefits in terms of survival. The aim of the current paper is to report three cases in which radical resection included distal gastrectomy [4,5].

MATERIAL AND METHODS

After obtaining the approval of the ethics committee no 12/2022 cases of patients submitted to primary cytoreduction in "Cantacuzino" Clinical Hospital were retrospectively reviewed. Among these cases 11 patients presenting tumoral lesions invading the stomach were identified; however, gastric resections were associated only in three cases, in the remaining eight cases the extent of the dis-

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ease made complete cytoreduction impossible and therefore the idea of debulking was abandoned.

RESULTS

The mean age of the patients in whom distal gastrectomy was performed was of 56 years (range 48-62 years) while the mean serum level of CA125 was of 2112 u/ml. In all cases debulking consisted of total hysterectomy en bloc with bilateral adnexectomy, pelvic and para-aortic lymph node dissection and omentectomy; meanwhile pelvic and parietal peritonectomy were associated in two cases, diaphragmatic peritonectomy was performed in one case, distal pancreatectomy was associated in two cases, splenectomy in one case and transverse colectomy in all three cases. In all cases gastric resection consisted of distal gastrectomy and was imposed by the tumoral involvement of the omentum, extended to the transverse colon and to the great curvature. In all cases the contiguity of the digestive tract was reestablished through a Roux en Y gastro-enterostomy; the mean operative time was of 260 minutes (range 220-320 minutes) while the estimated blood loss was of 800 ml (range 500 -1300 ml). In all cases the histopathological studies demonstrated the presence of full thickness tumoral invasion of the gastric wall. Postoperatively a single patient develop a significant complication consisting of a gastric eak which was successfully managed in a conservative manner. However this patient necessitated a significantly longer hospital in stay, of 21 days (while the other two cases were discharged in the 10th and respectively 11th postoperative day). A significant aspect which should be underlined was the one that the case in which the gastric leak was reported also associated a distal pancreatectomy en bloc with splenectomy which was followed by the apparition of a pancreatic leak; therefore it was considered that the gastric leak was rather caused by the apparition of the pancreatic leak.

DISCUSSIONS

The issue of extending the cytoreductive effort in the upper abdomen has been widely debated in the last decades. Maybe the most important study which came to demonstrate the benefits, safety and effectiveness of such procedures was published in 2006 by Eisenhauer et al. the study included 262 patients submitted to surgery between 1998 and 2003. Depending to the time of surgery and extent of surgical procedure, these patients were classified in three categories: the first category included patients with upper abdominal involvement submitted to surgery with curative intent, the second category included patients with pelvic confined disease while the third category included patients with upper abdominal extension who were suboptimally debulked. When analyzing the long term outcomes, the authors demonstrated the fact that patients in the first two categories reported similar benefits in terms of survival irrespective to the extent of the disease; therefore the overall survival was similar between the first and the second group and was significantly higher when compared to the third group. When analyzing other prognostic factors influencing the overall survival, a significant impact was observed when it came to stage, optimal debulking status and the presence of ascites; as for the most commonly performed upper abdominal surgical procedures, they were represented by diaphragmatic peritonectomies or full thickness resections, splenectomy, distal pancreatectomy, liver resection, porta hepatic tumor resection and cholecystectomy. The “time” factor was also analyzed, the authors demonstrating that after the year of 2000 the long term outcomes were significantly improved, this moment being represented by the systematic introduction of upper abdominal resection techniques [6].

Since this moment when all these data were clearly demonstrated, the upper abdominal resections became part of the surgical procedures in such cases and the benefits of survival were widey demonstrated. Therefore, the most commonly encountered procedures were represented by hepatic, splenic and colic resections; furthermore, more complex procedures such as pancreatic resections were associated. However, we should not omit the fact that pancreatic surgery is per se associated with higher rates of perioperative complications, and therefore, it should be carefully decided to be performed [7].

When it comes to gastrectomy as part of debulking surgery in advanced stage ovarian cancer, it is usually imposed by the tumoral transformation of the greater omentum and local invasion of the greater curvature alone or in association with transverse colon or small bowel resection.

An interesting study which aimed to identify which are the risk factors for postoperative complications in cases in which upper abdominal resections are needed was conducted by Benedetti Panici et al. and was published in 2015; the study included 121 patients submitted to surgery for advanced stage ovarian cancer; the authors demonstrated that, in multivariate analysis, association of pancreatic and diaphragmatic resections were associated with significantly longer hospital in stay while pancreatic resections, diaphragmatic resections, hepatic resections and biliary procedures were associated with significant risks for developing severe postoperative complications. When it comes to gastric resections they were performed in 12 cases and were associated in univariate analysis with a longer post-

operative hospital in stay; however, this correlation was not statistically significant in multivariate analysis. Meanwhile when it came to the most frequently postoperative complications, they were related to pulmonary issues in 32,3% of cases, gastrointestinal causes being incriminated only in 3,3% of cases. Therefore, we can conclude that association of gastric resections is not considered to be a significant source of perioperative complications when performed as part of debulking surgery [8].

Another study which aimed to analyze the risks of perioperative complications in cases necessitating multiple upper abdominal resections was conducted by Hoffman et al and was published in 2007; the study included six women submitted to en bloc resections in the left upper abdomen, the indication being given by the presence of contiguous invasion of the distal pancreas, gastrocolic ligament, colon, omentum, spleen and/or larger gastric curvature. Parcelar or distal gastrectomy was associated in two cases; in all cases debulking to no residual disease was achieved while postoperatively, half of the patients experienced complications. However there was no postoperative death while the disease free survival interval ranged between two and 12 months [9]. These data came to demonstrate that in selected cases extended and even en bloc, multiple visceral resections might be effective in order to maximize the chances of long term survival.

Meanwhile other authors underline the fact that isolated metastases involving the gastric wall can be also encountered at the time of relapse; therefore, Liu et al. reported the case of a 51 year old patient with previous history of stage IIIC ovarian cancer who was further diagnosed with a lesion at the level of the gastric wall which was initially diagnosed as a gastrointestinal stromal tumor. The patient was further submitted to surgery and the lesion was resected, the final histopathological studies demonstrating the presence of a metastasis originating from the previous ovarian serous adenocarcinoma [10]. In cases presenting intramural lesions, the origin of the metastatic tumor is considered to be represented by the hematogenous or lymphatic route [11].

CONCLUSIONS

Although traditionally it has been considered that upper abdominal involvement is the sign of a poor biology of the ovarian tumors, more recently it has been demonstrated that extended resections at this level can be safely associated, with acceptable rates of perioperative complications. Moreover, whenever complete cytoreduction is achieved, long term survival is expected.

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