

Omental cake invading the urinary bladder — a case report and literature review

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ABSTRACT

Omental cake represents a common finding in advanced stage ovarian cancer and is characterized by the complete omental transformation. Most often it is associated with subjacent invasion of the enteral segments and needs multiple resections in order to achieve radical cytoreductive surgery. Meanwhile, in other cases different visceral invasions are encountered necessitating other visceral resections. The aim of the current paper is to report the case of a 55 year old patient diagnosed with stage IIIC ovarian cancer in whom intraoperatively omental cake transformation invading the urinary bladder was encountered.

Keywords: ovarian cancer, omental cake, urinary bladder, partial cystectomy

INTRODUCTION

Advanced stage ovarian cancer is still associated with the lowest rates of long-term survival especially if complete cytoreduction is not achievable [1]; when it comes to the most frequently encountered causes of suboptimal debulking, the tumoral transformation of the omentum invading the adjacent structures as well as the presence of peritoneal carcinomatosis at the level of the mesenterial lining represent the most commonly incriminated ones [2]. However, once tumoral omental transformation is encountered, invasion of the subjacent loops of the small bowel is commonly seen and might necessitate extensive enteral resections or might be the cause of incomplete debulking surgery. As expected, not only the small bowel can be involved, but also the other surrounding viscera such as the colon, the greater gastric cur-

vature or the urinary bladder might be invaded [3]. The aim of the current paper is to report the case of a 55 year old patient diagnosed with advanced stage ovarian cancer and omental cake invading the urinary bladder in whom multiple resections including a partial cystectomy were performed.

CASE REPORT

The 55 year old patient with no significant previous medical history self referred for abdominal distension, weight loss and alteration of the general status; the abdominal ultrasound demonstrated the presence of free peritoneal fluid in association with the presence of disseminated solid tumoral lesions while the biological tests revealed a serum value of CA 125 of 2567 U/ml. The patient was further submit-

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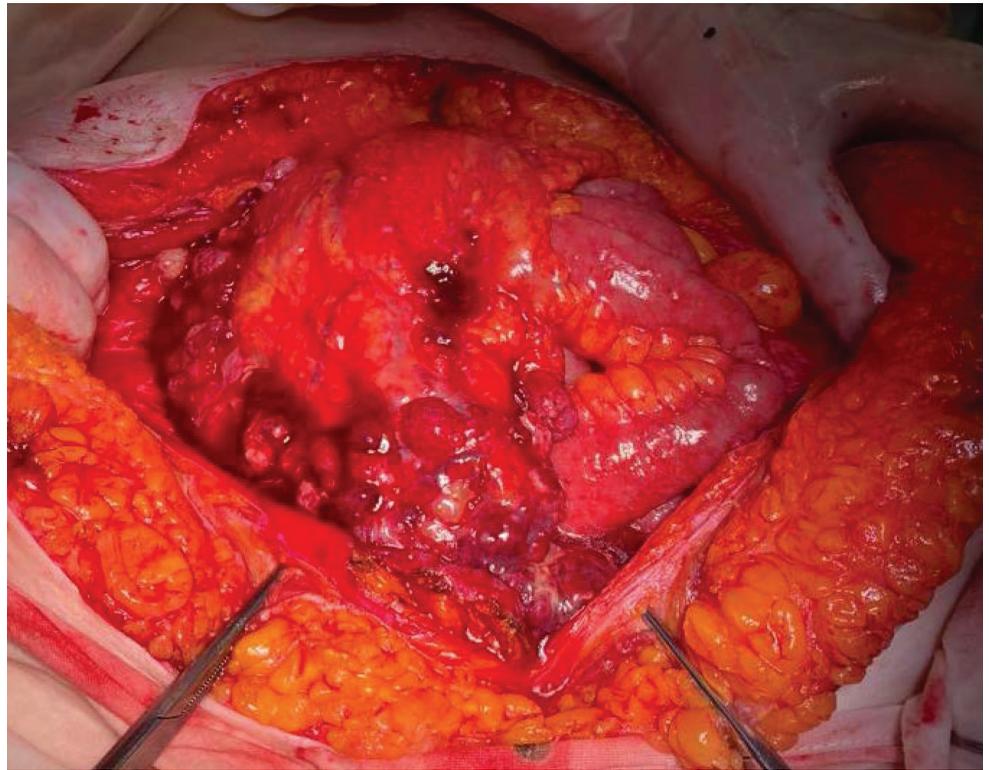


FIGURE 1. Initial intraoperative aspect: omental cake invading the rectosigmoidian loop and the urinary bladder

ted to a computed tomography which demonstrated the presence of bilateral tumoral ovarian transformation in association with peritoneal carcinomatosis invading the rectosigmoidian loop and the Douglas pouch, tumoral transformation of the greater omentum suggesting the aspect of omental cake and a large amount of free peritoneal fluid. Due to the fact that no unresectable lesions was found on the computed tomography, the patient was further submitted to surgery with curative intent, debulking surgery being tempted. Intraoperatively omental cake transformation invading the rectosigmoidian loop and a subjacent enteral loop were found; surprisingly, the tumoral mass originating from the omentum also proved to invade the urinary bladder. Therefore, the patient was submitted to a total hysterectomy en bloc with bilateral adnexectomy, pelvic lymph node dissection, total omentectomy, rectosigmoidian resection with left colostomy and partial cystectomy with cystoraphy (Figures 1-4). The patient was discharged from the hospital in the fifth postoperative day with a good clinical status and was referred to the oncology clinic in order to be submitted to adjuvant platinum based chemotherapy. The histopathological studies confirmed the presence of a poorly differentiated serous epithelial ovarian cancer.

DISCUSSIONS

Peritoneum, defined by the two layers serosal membrane covering the abdominal and pelvic surfaces, plays a crucial role in the hydrodynamics of the peritoneal fluid and therefore, in the development of



FIGURE 2. The aspect after mobilization of the omental cake en bloc with the invaded area of the urinary bladder and the rectosigmoidian loop

tumoral contamination in ovarian cancer patients. The tumoral cells exfoliated from the level of ovarian surface initially reach the rectouterine and paravesical space and they further migrate at the level of the right paracolic and subdiaphragmatic areas, followed by the left subdiaphragmatic and paracolic gutter. Besides the location of the segments, another important factor which influences the risks of developing peritoneal contamination is represented by the peristaltic motion; therefore, the most protected segment, from this point of view is represented by the small bowel, which has the highest intensity of peristaltic

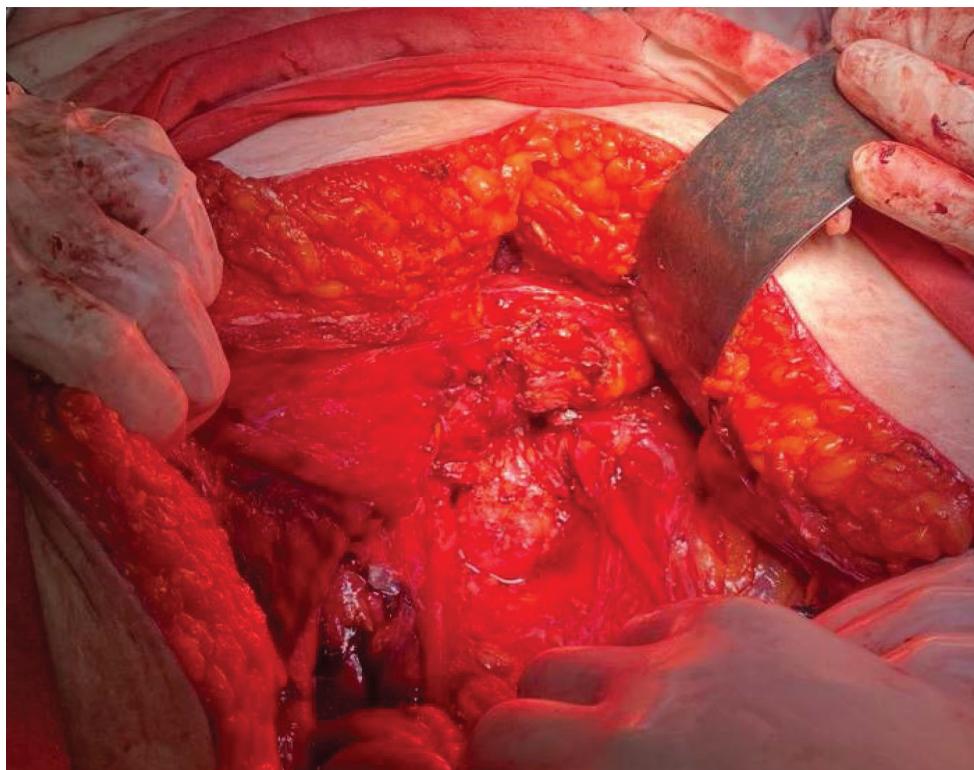


FIGURE 3. The final aspect after total hysterectomy en bloc with rectosigmoidian resection, partial cystectomy and total infracolic omentectomy



FIGURE 4. The specimen of total hysterectomy with bilateral adnexectomy, total omentectomy, rectosigmoidian resection and partial cystectomy

movements [4,5]. Meanwhile, another frequently encountered area in which peritoneal tumoral deposits develop is represented by the omentum, which is the principal surface through which the peritoneal fluid is reabsorbed [2]. Therefore, at this level significant deposits of tumoral cells develop; once the amount of tumoral islets is high enough, complete tumoral transformation at this level occurs, leading to the apparition of omental cake. The close anatomical relationship between the small bowel and omentum explains why, in certain cases tumoral encasement of the jejunio-ileal loops might be encountered, despite their increased peristaltic activity. Meanwhile, other organs which are found in the close proximity of the omentum such as large bowel, greater gastric curvature or urinary bladder might be involved, necessitating performing extended resections at this level.

In the meantime, when encountered, invasion of the small bowel loops might represents a significant reason for incomplete debulking, in such cases multiple segmental enteral resections being needed; these resections, when performed, might be associated with significant risks of short term complications such as digestive leaks or even long term complications such as short bowel syndrome and subsequent malabsorption [6-9].

Therefore, in the study conducted by Bernard et al the authors included 4965 patients submitted to cytoreductive surgery between 2006 and 2017, 413 of them necessitating performing an enterectomy at the level of either small or large bowel. The authors demonstrated that in cases in which the digestive tract was involved the risk of postoperative complica-

tions was 2,67 times higher when compared to cases in which the digestive tract was not involved, this rate not being influenced by other prognostic factors such as age, body mass index, ASA status, presence of hypoalbuminemia or complexity of the surgical procedure [9]. Meanwhile, in the study conducted by Fotopoulou et al. and published in 2013 the authors underlined the fact that performing extended small bowel resections and inducing a short bowel syndrome is associated with high postoperative complication rates and low rates of overall survival, most often patients needing total parenteral nutrition for a long period of time; in this respect, the authors underlined the fact that in cases in which extended small bowel resections are needed, a multidisciplinary approach should be taken in consideration in

order to limit the length of the resected segments and to minimize the risks of short bowel syndrome [10].

CONCLUSIONS

Omental cake represents a common reason for residual disease in patients with advanced stage ovarian cancer, the fact being explained through the presence of local invasion of the surrounding viscera such as small bowel or colon. However, in certain cases, some other visceral invasions can be encountered such as urinary bladder involvement. Although it is not a favorable situation, being frequently associated with the presence of suboptimal debulking, in certain cases the presence of omental cake does not preclude obtaining complete cytoreduction and respectively no residual disease.

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