Long-Lasting Stent Placement in an Elderly Advanced Ovarian Cancer Patient

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Established Facts
- Intestinal obstruction occurs in 25–50\% of ovarian cancer patients and is commonly treated with surgery.
- However, this kind of surgical treatment can negatively affect patients’ quality of life.

Novel Insights
- Stent placement is a therapeutic option for tumor-related intestinal obstruction preferable to classic surgery, since it improves quality of life by rendering further surgery and stoma formation unnecessary.

Keywords
Ovarian cancer · Elderly patients · Stent

Summary
Background: Ovarian cancer is usually diagnosed at an advanced stage, most often co-occurring with malignant bowel obstruction. Affected patients are generally in poor physical condition, and it is important to manage the bowel obstruction to improve quality of life. Case Report: We present the case of a 75-year-old woman who underwent a left hemicolectomy for an ovarian carcinoma with bowel obstruction. 3 years after hemicolectomy, the patient presented with an extrinsic anastomotic substenosis. A self-expanding metal stent was placed which remained in place for 7 years, rendering other invasive surgical treatments unnecessary. Conclusion: The placement of a long-lasting stent is an important option in patients with bowel obstruction subsequent to recurrent ovarian cancer, since this provides a viable alternative to surgery and increases patients’ quality of life.

Introduction
Ovarian cancer is the 8th most common cancer in women worldwide [1]. It is usually diagnosed at an advanced stage due to the absence of specific early symptoms. The 5-year survival rate ranges from 17 to 39\% when ovarian cancer is diagnosed at stage III or later [2]. It is the 7th most common cause of cancer death, and its incidence varies depending on the region, being more common in Europe and North America and less common in Asia and Africa [3].
Intestinal obstruction can occur as first presentation of this tumor or more frequently during disease progression [4]. The incidence of intestinal obstruction is not well known: retrospective studies have suggested that it may occur in 25–50% of all cases. Morbidity after reoperation for recurrent intestinal obstruction is high (44%) [4].

Therapeutic strategies for malignant intestinal obstruction usually comprise aggressive surgery with bowel resection for tumor debulking with prolongation of survival. When the tumor is non-resectable, the aim is to resolve the bowel obstruction with less aggressive surgery, usually with palliative intent. Another possible approach is medical treatment and stent placement [5], thus avoiding surgery. The insertion of a stent in patients with high co-morbidity or low performance status can decompress the obstruction and improve quality of life. Therefore, the placement of stent is a valid therapeutic alternative to surgery when managing a tumor relapse. In fact, despite aggressive surgery being essential as a first approach in ovarian cancer, its role in the management of recurrent disease should be carefully evaluated as it can negatively impact quality of life.

**Case Report**

We present the case of a 75-year-old woman who presented to our department in August 2005 with bowel obstruction. She had previously undergone bilateral hysterectomy for fibromatosis in 1984.

A left hemicolectomy was performed, and the histological examination revealed a poorly differentiated papillary serous ovarian carcinoma (FIGO stage III C), probably of primary coelomic epithelial origin. She then underwent 6 cycles of chemotherapy with carboplatin area under the curve 2 and paclitaxel 80 mg/m² days 1/8/15 every 28 days. By the end of chemotherapy, the patient was in good condition having tolerated the therapy well, and routine follow-up commenced.

In June 2008, a routine serum tumor marker assay revealed an increase in cancer antigen 125 (CA125). The patient underwent a computed tomography (CT) scan and magnetic resonance imaging (MRI), which demonstrated local and peritoneal disease progression. Chemotherapy with carboplatin and paclitaxel recommenced. After 3 cycles, an MRI scan demonstrated stable disease (SD). The patient then reported rectal bleeding, and a colonoscopy was performed which showed an extrinsic anastomotic substenosis, probably due to the recurrence of peritoneal disease in particular at the level of the anastomosis. In November 2008, due to the worsening of the patient’s condition, a self-expandable metal stent (SEMS) (Wallflex®, Boston Scientific, Natick, MA, USA), measuring 90 mm in length and 25 mm in diameter, was placed. This was followed by chemotherapy with cisplatin, epirubicin, and cyclophosphamide, which had to however be suspended after the first cycle due to high toxicity: hematologic toxicity with grade 4 leukopenia, grade 3 anemia and grade 2 thrombocytopenia, plus gastrointestinal toxicity with grade 3 mucositis.

In May 2009, a restaging MRI scan showed SD, so the patient started hormone therapy with tamoxifen 40 mg daily. SD persisted until June 2013 when the patient presented in poor general condition due to anemia (hemoglobin 6.8 g/dl), which required a blood transfusion.

A CT scan and a colonoscopy were performed and showed the rectal prosthesis incorporated into neoplastic tissue (fig. 1) in the presacral (pelvic) region and multiple peritoneal implants in the transverse colon and in the gisslenian region.

Serum CA125 levels increased, and the patient was started on melphalan. After 6 cycles, a marked decrease in CA125 was obtained in the absence of side effects. The patient improved clinically, and hemoglobin returned to within normal limits (10 g/dl).

She continued routine follow-up with monthly monitoring of CA125 until her death in February 2015 from intercurrent illness.

**Discussion**

Bowel obstruction is a common complication in advanced gynecologic cancers, frequently occurring in connection with ovarian cancer [5]. The most common causes of intestinal obstruction in ovarian cancer are extrinsic or intrinsic bowel compression by a tumor mass and tumor infiltration of the mesentery, bowel muscles, or nerves. Nonmalignant causes of bowel obstruction can be adhesions from previous surgery, radiation therapy, or intra-peritoneal chemotherapy [5].

Several studies have explored prognostic factors for the selection of patients who may benefit from palliative surgical intervention. Among these factors, Perri et al. [6] proposed age, primary tumor location, serum albumin concentration, and the presence of ascites to be most predictive. Furthermore, Goto et al. [7] demonstrated that a longer interval between the last antineoplastic therapy and bowel obstruction, as well as a good performance status, could be indicative of a benefit of surgical intervention.

The benefits and safety of palliative surgery versus medical management were compared in a group of patients with advanced ovarian cancer with full or partial bowel obstruction. Patients treated with surgery underwent stoma formation, bypass of the obstruction, bowel resection, placement of colorectal stents, and gastrostomy. However, the authors failed to reach a definite conclusion about the relative benefits and harms of the 2 types of treatment or identify subgroups of women likely to benefit from one treatment or the other. Only weak evidence was found in support of surgical management to prolong survival [8].

Placement of colonic stents in colorectal cancer patients presenting with malignant bowel obstruction was recently shown to be effective and safe and has now been proposed as the therapy of choice in these patients [9]. Quality of life is severely impaired in patients with bowel obstruction, and stent placement represents an alternative solution to avoid radical surgery [10]. Complications are generally minor and include bleeding, tenesmus, and pain. Rare major complications include stent migration and perforation.
Occhionorelli et al. [10] performed a non-randomized study in patients with malignant large bowel obstruction. Among these patients, 9 underwent SEMS placement, the other 6 patients underwent surgery. The authors concluded that SEMS placement could be a useful alternative to surgery in the management of acute bowel obstruction, providing an effective and safe therapeutic option compared to surgery, also in elderly patients.

Other authors suggested that colorectal stent placement is a reasonable option for the palliation of large bowel obstruction in recurrent gynecologic cancer with a median survival time after stent placement of 7.7 months [11]. In our patient, the use of SEMS resulted in an even better outcome with a survival time of 7 years after the procedure.

As mentioned earlier, advanced ovarian cancers that are indolent can often benefit from less aggressive therapy [12, 13], allowing patients to achieve long survival. In acute bowel obstruction, the use of a stent allows to delay surgery; however, SEMS can also be a definitive therapy, as described in our case. Our patient, although of older age, was able to keep the same stent for 7 years.

**Conclusion**

Colonic stent placement is used to palliate symptoms of bowel obstruction and to avoid stoma formation. It is a low-risk procedure with a mortality rate of less than 1% and low morbidity. Hence, we propose that stent placement is a valid treatment option in recurrent ovarian cancer patients with bowel obstruction.

**Disclosure Statement**

All authors report no conflict of interest in relation to this article.

**References**