



Conservative management for an entero-adnexal fistula at initial presentation of advanced ovarian carcinoma

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ABSTRACT

Gastrointestinal fistulae can occur in ovarian cancer patients, usually in the setting of advanced relapsed disease. Treatment typically involves immediate surgery.

Here, we describe a case of an abscess resulting from an intestinal fistula as the first manifestation of advanced epithelial ovarian cancer, and we review the current literature on this subject. The patient was successfully treated with a combination of chemotherapy, antibiotics, and delayed surgery. Optimal debulking was achieved without a need for bowel resection.

This report is the first of conservative management of a fistula in an ovarian cancer patient in the chemotherapy-naïve setting.

KEY WORDS

Fistula, ovarian cancer, chemotherapy, abscess, serous

1. INTRODUCTION

Gastrointestinal fistulae complicating ovarian tumours have occasionally been described, but their true incidence is unknown. Fistulae usually occur after previous surgery and chemotherapy, in the setting of relapsed disease rather than as an initial presentation¹, and they are generally treated with immediate surgery. Here, we describe the case of a patient who presented with fever attributable to a fistula and an abscess as the first manifestation of an advanced epithelial ovarian cancer. The patient was successfully managed with chemotherapy, antibiotics, and delayed surgery.

2. CASE DESCRIPTION

A 57-year-old woman was admitted with fever up to 38.5°C and lower abdominal pain. On physical examination, a tender mass was palpated in the

pelvis and lower abdomen. Transvaginal ultrasound revealed a multicystic mass originating from the left ovary, 14 cm in its largest dimension, with additional masses on the right ovary, peritoneum, and pelvic side walls. Computed tomography (CT) imaging showed two hypodense lesions in the spleen, retroperitoneal lymphadenopathy, and several lung nodules measuring up to 1.5 cm. The patient's white blood count was within the normal range, and cancer antigen 125 (CA125) was elevated at 1073 U/mL. Blood and urine cultures were sterile. With no concrete evidence of infection, the clinical presentation suggested that the high temperature was secondary to metastatic malignant disease and therefore non-steroidal anti-inflammatories were prescribed as symptomatic treatment.

Pathology assessment of a specimen from one of the peritoneal masses obtained by CT-guided biopsy was interpreted as adenocarcinoma, strongly positive for p53, cytokeratin 7, and CA125, suggesting serous ovarian carcinoma. Neoadjuvant treatment with intravenous carboplatin (area under the curve 6) and paclitaxel (175 mg/m²) every 3 weeks was initiated. After the second course, the patient was admitted because of neutropenic fever and was treated with antibiotics and granulocyte colony-stimulating factor for 10 days. Prophylactic granulocyte colony-stimulating factor was administered with subsequent cycles.

After 3 cycles of chemotherapy, the size of the pelvic mass was reduced on physical examination, and the CA125 level had declined to 283 U/mL. The patient's abdominal pain resolved, and she reported fever up to 37.5°C that started 10 days after each cycle of chemotherapy and normalized after the subsequent cycle. Imaging by CT performed after the 3rd cycle suggested a decrease in the size of the splenic, retroperitoneal, lung, and abdominal masses. In those images, a new air-fluid level within the multicystic pelvic mass was reported (Figure 1), but a clear fistula between the pelvic mass and the bowel was not visible on contrast imaging.

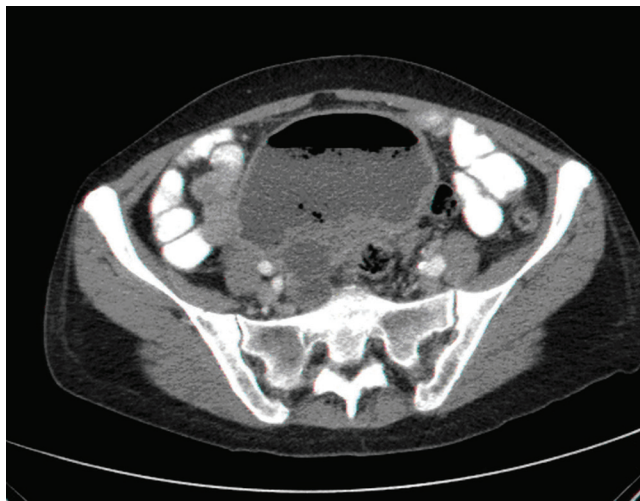


FIGURE 1 Computed tomography image demonstrating an air–fluid level within an adnexal mass.

We assumed that the air–fluid level represented an abscess or a necrotic lesion within the tumour, thus explaining the patient's fever. Because the patient's symptoms were improving and because we estimated that optimal surgical debulking for a patient with bowel, splenic, and lung involvement would be achieved only with major morbidity, we recommended conservative treatment with a prolonged course of antibiotics and continued chemotherapy.

After 8 weeks of treatment with amoxicillin–clavulanate, the patient's symptoms improved with no further spikes of fever. Her CA125 level continued to decline, stabilizing at 30 U/mL after 8 cycles of chemotherapy. Follow-up CT imaging after 6 cycles demonstrated a continued reduction in the size of the lung and splenic masses. The cystic pelvic mass measured 7.5 cm, and the amount of air within it had decreased dramatically (Figure 2). No other masses were seen in the peritoneal cavity. After 8 courses of chemotherapy, the diameter of the pelvic mass measured 6 cm, and the lung and splenic lesions had disappeared entirely. At that time, a debulking surgery was scheduled.

During laparotomy, a mass on the left ovary was noted. That mass measured approximately 5 cm and required separation from a loop of small bowel, without need for bowel resection. The mass contained malodorous yellow fluid within an organized capsule (Figure 3). The right ovary was slightly enlarged, and 1 nodule measuring 2 cm was palpated on the omentum. No other masses were seen or palpated. Bilateral oophorectomy, hysterectomy, and omentectomy were performed, leaving no macroscopic residual disease. The patient recovered uneventfully.

A pathology assay of the mass was consistent with high-grade serous carcinoma. The findings in the right ovary, omentum, and biopsy from

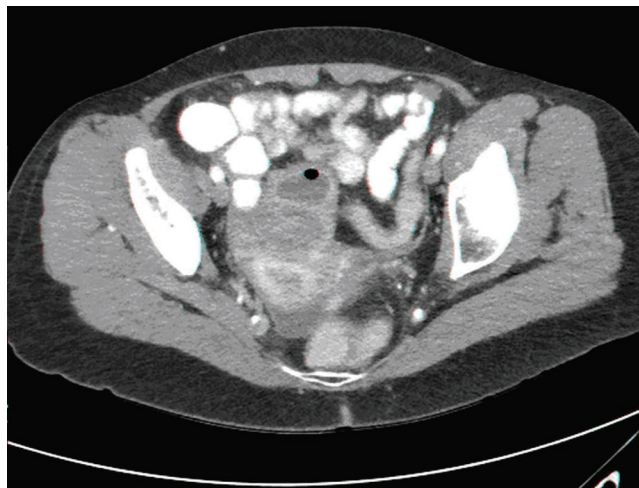


FIGURE 2 Computed tomography image demonstrating a reduction in the diameter of the adnexal mass and less air within the mass after 6 courses of chemotherapy.

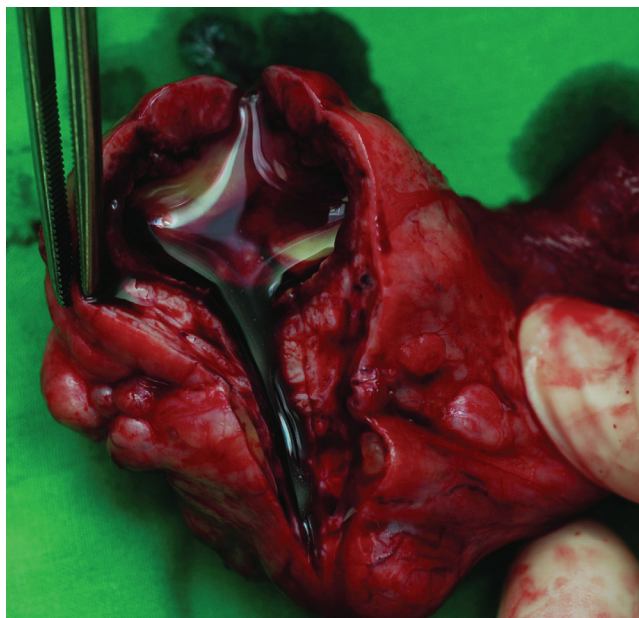


FIGURE 3 Surgical specimen consisting of a mass containing malodorous fluid. Culture of the fluid revealed prominent growth of *Escherichia coli*.

the small and large intestine were consistent with post-chemotherapy changes, including a large area of necrotic tissue, with no evidence of residual viable tumour. Culture of the adnexal fluid revealed prominent growth of *Escherichia coli*. The patient was treated with an additional 3 cycles of adjuvant chemotherapy. She remains free of disease at 9 months after surgery, with no bowel complaints.

3. DISCUSSION

Gastrointestinal tract fistulae can complicate intra-abdominal tumours². Although most cases are treated

surgically, successful conservative management has occasionally been reported. Chemotherapy and radiotherapy have been used to treat fistulae complicating lymphoma and germ-cell tumours—malignancies that are usually chemotherapy- and radiotherapy-sensitive^{3–6}. Intra-arterial chemotherapy and chemoradiotherapy have been used to treat fistulae complicating tumours of the anus⁷.

Our patient with advanced-stage ovarian cancer first presented with fever and associated pelvic pain. Imaging confirmed multiple pelvic–abdominal masses with lung and splenic nodules. Eventually, a pelvic abscess within an ovarian epithelial tumour was diagnosed. The presence of enteric bacteria within that tumour suggests that, although a fistula between tumour and bowel was not documented on imaging studies and during the surgical procedure, such a fistula existed and introduced bowel flora into the tumour.

The presenting signs and symptoms of fistulae associated with ovarian tumours vary. Rare cases present with giant cystic air-filled masses^{8,9}; others, with bowel obstruction necessitating emergency surgical intervention¹⁰.

The incidence of gastrointestinal fistula in ovarian cancer patients is not well defined. One small series reported a fistula in 9 of 195 patients (4.6%) treated with chemotherapy for recurrent disease¹. Occurrence of a fistula has been described in patients with advanced ovarian epithelial tumours^{11,12} and germ-cell tumours^{8–10}. Recently, fistulae were described in patients receiving bevacizumab with chemotherapy. However, it is unclear if the incidence of fistula formation increases with the addition of bevacizumab^{1,13–15}.

In the present case, an abscess became evident on imaging studies after 3 courses of chemotherapy. The improvement in the patient's symptoms prompted us to continue conservative management and to postpone surgical debulking. With that approach, the patient's symptoms continued to improve, and a continuous decline in the diameter of the adnexal mass and the abscess were documented on imaging studies. Eventually, optimal surgical debulking was undertaken with no need for bowel resection.

4. CONCLUSIONS

Our patient presented with fever and metastatic ovarian carcinoma. An abscess became evident within the tumour on CT imaging performed 2 months after initial diagnosis. Our case underscores the need to meticulously search for an intra-abdominal infection in patients with advanced-stage ovarian cancer presenting with fever.

To our knowledge, this report is the first of conservative management with chemotherapy and antibiotics for a bowel fistula and abscess complicating ovarian carcinoma. Serous ovarian carcinoma is

highly responsive to chemotherapy, with a response rate as high as 80% to first-line treatment¹⁶. The appropriate treatment for a fistula complicating less chemo-responsive ovarian tumours such as clear-cell or mucinous carcinomas would be immediate surgery. However, the present case demonstrates that, in selected patients, conservative management with delayed surgery can be considered for a fistula occurring in the setting of treatment-naïve high-grade serous ovarian carcinoma. This approach may result in a favourable surgical outcome.

5. CONFLICT OF INTEREST DISCLOSURES

The authors have no financial conflicts of interest to declare.

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