

Ovarian new growth creating a cutaneous fistula: A case report*

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Ovarian new growths are among the most common tumors in women. Their presentation at time of diagnosis vary and are often incidental findings on ultrasound examination. Complications of ovarian masses include torsion, rupture, infection, hemorrhage, and malignant degeneration. These masses have also been known to create fistulous tracts to other organs of the body. Entero-adnexal communications have been reported in literature. However, fistula formation to the skin has not yet been reported. Here, we present an adult woman diagnosed to have ovarian new growth and a one-year history of serous discharge from a skin lesion. Imaging studies show a fistulous connection to the abdominopelvic mass. She underwent excision of the mass with fistulectomy. This is the first reported case of an ovarian new growth which created a cutaneous fistula.

Keywords: cutaneous, fistula, ovarian new growth, teratoma

INTRODUCTION

Ovarian new growths complicated by fistula formation are an uncommon entity but have occasionally been described. There have been reported cases of entero-ovarian fistula after surgery or chemotherapy.^{1,2} However, formation of a fistulous tract directly to the skin has not been identified in literature. We report a case of a woman with an ovarian new growth complicated by a cutaneous fistula who underwent complete surgical resection of the mass with fistulectomy

CASE REPORT

The patient is AD, a 42-year-old G3P3 (3003), who presented with a one year history of yellowish discharge from an infraumbilical skin lesion. She is a known hypertensive and diabetic for one year maintained on Amlodipine and Metformin with good compliance. She has adequate sugar control with HbA1c of 5.3%. Her family medical history is unremarkable. She denies smoking or use of alcohol and illicit drugs.

Four years prior to consult, she noted a 3 x 3 cm fluctuant infraumbilical mass, with erythematous borders diagnosed to be a carbuncle. She underwent incision and drainage of this lesion with note of good post-operative healing. She was apparently well until three years ago when she started to experience intermittent abdominal pain associated with gradual abdominal enlargement. She did not have any weight loss, fever, anorexia, urinary or bowel movement changes. No consult was done and no



Figure 1. An infraumbilical wound with a defect draining yellowish serous discharge.

medications were taken by the patient. One year prior to consult, there was gradual sinus formation on the site of the previous carbuncle resulting in a skin defect. From this opening, yellowish serous discharge would drain spontaneously throughout the day aggravated by movement.

Persistence of symptoms prompted consult. She had stable vital signs. On abdominal examination, there is a 4 x 4 cm healed wound on the infraumbilical area with a 0.5 x 0.5 x 2 cm fistula (Figure 1). On palpation, there was no fluid wave. There was an 18 x 18 x 10 cm cystic, movable, nontender abdominopelvic mass. Yellowish serous discharge would drain from the site of the fistula upon palpation and manipulation of the said mass. The

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rest of the systemic physical examination was essentially normal. There were no non-healing wounds elsewhere in the body. On internal examination, she had normal external genitalia, parous vagina, and the cervix was smooth measuring 2 x 2 cm. The corpus and adnexae were difficult to assess due to the abdominopelvic mass.

Transvaginal-transabdominal ultrasound showed an intraabdominal fluid collection measuring 4.4 x 4.3 x 1.8 cm (volume 17.81 cc) bounded by the fascia anteriorly and the abdominopelvic mass posteriorly. The fluid collection seemed to be connected to the skin by a fistulous tract measuring 2.8 x 0.8 cm. Occupying the abdominopelvic cavity was a unilocular cystic mass measuring 19.6 x 20.4 x 14.0 cm with low level echo fluid and echogenic stipplings within. There were echogenic cores at its inferior pole measuring 2.1 x 1.8 and 2.3 x 1.8 cm each, casting posterior acoustic shadows. Color flow mapping showed absent vascularity. The uterus and left ovaries were normal.

Abdominal computerized tomography scan showed a large, well-defined predominantly cystic focus with enhancing rim measuring 20.4 x 15.3 x 16.2 at the abdominopelvic region. It exhibited fat attenuation with lobulated coarse calcifications. Anteriorly, the mass seemed to cause the clinically apparent anterior abdominal bulge at the region of the umbilicus. A column of hypodensity is seen extending from the mass to the adjacent extracutaneous region through a small defect in the overlying soft tissue (Figure 2).

A fistulogram showed initial pooling of contrast material into the clinically apparent ulceration with eventual opacification of a tract approximately 2.5 cm long coursing posteriorly with abrupt cutoff distally. Delayed

images show opacification of a multilobulated structure located midline and posteroinferior to the radiopaque marker, adjacent to the soft tissue density which likely represents the abdominal mass. Her CA 125 was 7.64. The wound aspirate was sent for AFB and culture. There was no AFB seen. Culture showed heavy growth of diphtheroid species. HIV testing was negative.

She underwent exploratory laparotomy, adhesiolysis, right salpingoophorectomy, left salpingectomy, and fistulectomy under regional anesthesia. Intraoperatively, the mass was densely adherent to the anterior abdominal wall, omentum, and surrounding bowel loops (Figure 3).



Figure 2. An axial cut on abdominopelvic computed tomography scan at the level of the fistula. A column of hypodensity is seen extending from the mass to the adjacent extracutaneous region through a small defect in the overlying soft tissue (box).

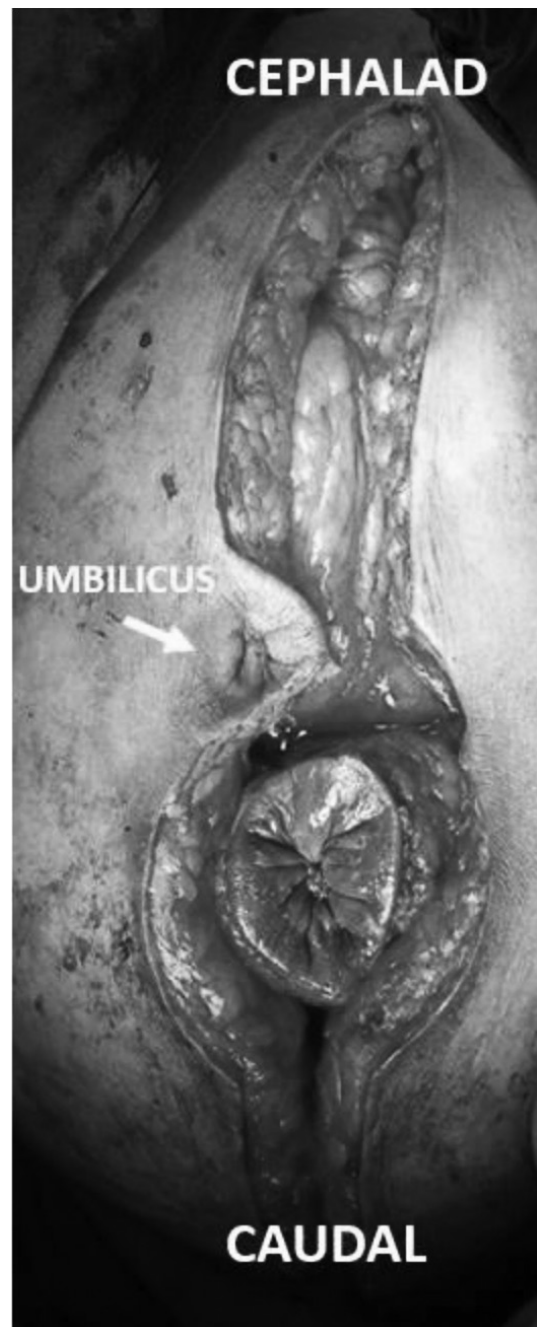


Figure 3. The abdominopelvic mass was densely adherent to the wound scar making adhesiolysis difficult at the area.

Intraoperative referral to general surgery service was done for enterolysis. Once freed from surrounding adhesions, we excised the abdominopelvic mass together with a portion of the adherent abdominal wall and fistulous tract. The mass was cystic and unilocular measuring 20 x 19 x 10 cm arising from the right ovary (Figure 4). On cut section, there was note of teeth located at the inferior border (Figure 5). The capsule was thickened at 0.5 cm. Assisted by the plastic surgery service, we were able to close the abdominal layers with no fascial defect. There was good postoperative wound healing. Histopathologic study showed a mature teratoma.

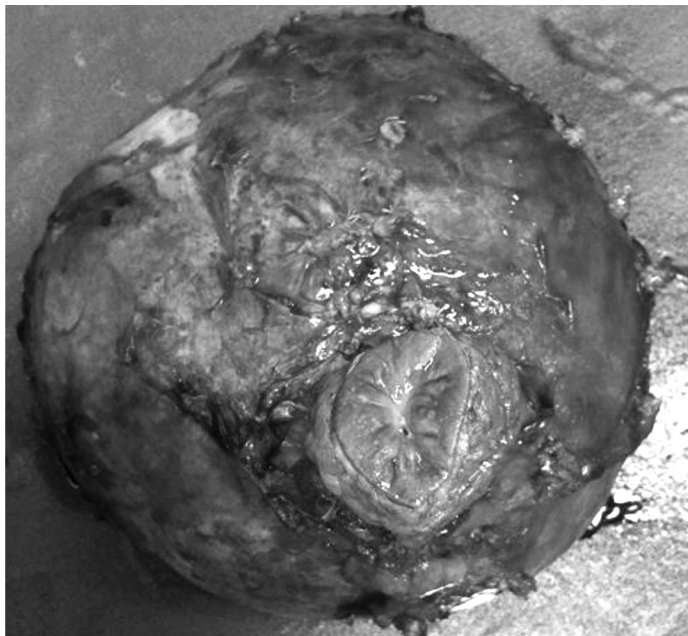


Figure 4. The abdominopelvic mass arose from the right ovary. It measured 20 x 19 x 10 cm with thickened capsule.

DISCUSSION

Ovarian new growths are a diverse group of tumors classified as sex cord-stromal, surface epithelial, germ cell, and metastatic tumors.³ Most ovarian masses are benign and occur mostly during the reproductive years.^{3,4} Symptoms usually vary among patients. They may experience abdominal enlargement, abdominal pain, and urinary or gastrointestinal symptoms. If the mass is hormonally active, patients may also complain of vaginal bleeding.⁴ Transvaginal examination is the investigation of choice in the detection of ovarian masses and assessment for its potential for malignancy.⁵ Management largely depends on symptoms produced by the mass, the likelihood that the mass is malignant, and the chance of spontaneous resolution.^{3,5}

Accounting for about 33% of ovarian masses, mature cystic teratomas are the most common germ

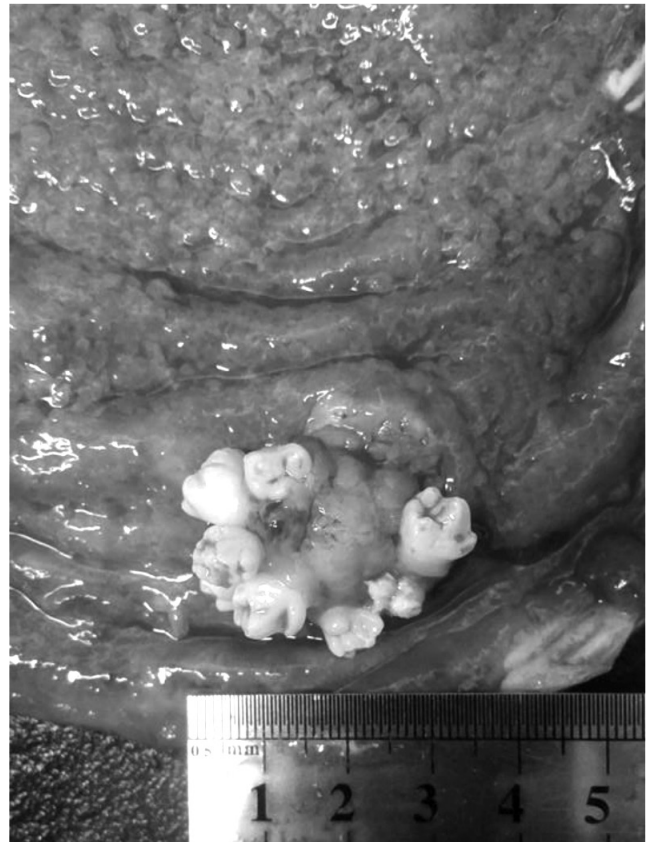


Figure 5. Cut section of the mass showed teeth formation at its inferior border.

cell tumor.³ These develop from a totipotential germ cell and thus contain an admixture of all three germ cell layers on histopathologic examination. The characteristic sonographic findings of an ovarian teratoma include a dense echogenic area within a larger cyst, a cyst with bands of mixed echoes, and an echoic dense cyst. Cysts are commonly unilocular with smooth, shiny, opaque white capsule. On cut section, they contain masses of hair, teeth, and cartilage with sebaceous fluid.³

Operative treatment of mature cystic teratoma is cystectomy or oophorectomy depending on the amount of normal ovarian tissue left and the patient's reproductive goals. The goal of surgical management is to preserve as much ovarian tissue as possible while minimizing adhesion formation. In this case, the right ovary was converted to the large mass with no normal ovarian stroma. As such, excision along with the fallopian tube was performed. There was difficulty separating the ovarian new growth from the surrounding peritoneal structures possibly due to a previous rupture and subsequent inflammatory changes. Careful adhesiolysis should be done in such cases so as not to injure any adjacent structures and prevent further spillage of the contents.

Teratomas may undergo complications which include rupture, torsion, infection, hemorrhage, and malignant degeneration.³ Cyst rupture is particularly uncommon

because of its thick capsule.⁶ Reported sites of rupture include the urinary bladder, vagina, and bowel. Rarely, they form fistulous tracts with other organs of the body. Shai and colleagues reported a case an entero-adnexal fistula as initial presentation of an advanced ovarian carcinoma. Their patient underwent a combination of chemotherapy, antibiotics, and delayed surgery. They were able to perform optimal debulking without the necessity of bowel resection.¹ A similar case of entero-ovarian fistula of a benign ovarian teratoma was also reported by von-Walter and Nelken.²

Recognition of clinical and radiologic findings is important in managing cases of ovarian masses complicated by fistula formation to other organs of the body. Symptoms vary and are nonspecific. Fistula formation may be caused by diverse factors which include radiation exposure, immunosuppression, infection, malnutrition, poorly controlled diabetes mellitus, and cyst rupture with subsequent inflammation and necrosis. In this patient,

predisposing factors for fistulization to the skin may include previous rupture with resulting adhesion to an already weakened anterior abdominal wall. Inflammation, ischemia, and necrosis of the cyst wall may have caused further breakdown of the abdominal wall creating a direct communication between the ovarian new growth and the skin. Adequate sugar control and daily wound care was emphasized to the patient to achieve good postoperative wound healing. On literature search, there have been no reported cases of an ovarian new growth creating a fistula to the skin.

SUMMARY

In summary, we presented a case of an ovarian new growth complicated by a fistulous tract to the skin. The patient was successfully managed via surgical resection of the mass along with fistulectomy. ■

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