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Ovarian endometrioid adenocarcinoma in a young woman with hemorrhagic shock due to tumor disintegration: A case report

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ABSTRACT

Acute abdomen secondary to ovarian carcinoma is rare, especially in a young woman. A 28-year-old obese woman underwent bilateral salpingo-oophorectomy and omentectomy as emergency surgery. The specimen from the right ovarian adenocarcinoma was fragmented because the tumor had disintegrated. The largest fragment measured 14 × 8 × 2.5 cm. The left ovary had a solid adenocarcinomatous tumor measuring 6 × 5 × 3 cm. In addition, there were disseminated lesions in the greater omentum, peritoneum, pouch of Douglas and the serosal surface of the uterus. Microscopically, the specimen was a Grade 3 poorly differentiated ovarian endometrioid adenocarcinoma with focal cyst-like structures. Several moderately dilated follicular cysts were seen in addition to the adenocarcinomas but no definite endometriosis was identified in the noncancerous areas of the bilateral ovaries. The endometrium was atrophic and there was endometriosis in the serosa of the uterus, which was resected 3 months later during a second-look operation. These observations suggest that the acute abdomen in this case was caused by disintegration and bleeding right ovarian cancer. The risk factors for ovarian endometrioid adenocarcinoma in this case might have been obesity and possibly endometriosis.

1. Introduction

Ovarian carcinoma presenting as acute abdomen is rare, especially in a young woman. The main cause of acute abdomen in patients with an ovarian tumor was noted to be adnexal torsion [1], rupture of cystic components [2–9] and bleeding from the tumor [3–5,7,9,10]. The rate of torsion in malignant ovarian neoplasm was 1.1% [1]. Some cases of rupture secondary to a malignant ovarian neoplasm were reported [6–9]. That torsion would cause bleeding from a malignant ovarian neoplasm was noted in one case report [10]. Rupture of cystic components of a malignant ovarian tumor that caused hemorrhage was the topic of reports of 5 cases similar to our case [3–5,7,9]. However, those patients (mean age: 53.6 years, range: 40–76) were much older than our case.

Here we report, to the best of our knowledge, the first ovarian endometrioid adenocarcinoma presenting as an acute abdomen in a young woman. We discuss the histopathological findings suggesting the cause of the acute abdomen and risk factors for carcinogenesis in this young woman.

2. Clinical summary

The patient was a 28-year-old obese woman with no family history of cancer, height 158 cm, weight 79 kg (body mass index: BMI 31.65 kg/m^2), gravida 0, para 0. She had sudden onset of abdominal pain and visited a local emergency hospital. A computed tomography (CT) scan revealed a huge solid and multicystic intraabdominal and hemorrhagic mass and ascites (Fig. 1). She was transferred to Kitasato University Hospital because of suspicion of ovarian rupture. In the ambulance, her systolic blood pressure temporarily decreased to approximately 60 mm Hg. When she arrived at Kitasato University Hospital, her consciousness was clear, blood pressure was 150/70 mm Hg, and pulse was 110 bpm. Laboratory examination revealed WBC of 16.3 × 10^3/μl, RBC of 3.16 × 10^6/μl, hemoglobin (Hb) of 5.1 mg/dl, and CRP of 7.17 mg. An intraabdominal high echoic mass was shown by ultrasound examination. Abdominal pain and abdominal distension worsened gradually over the next 2 days. She had progressive anemia and hypotension, and was diagnosed as having a ruptured ovarian tumor. She underwent an emergency operation. Initially, clinicians thought that the tumor was benign considering her age, and before surgery had planned partial resection of the ovary. Since intraoperative findings implied a malignant neoplasm, they changed the operative procedure to a bilateral salpingo-oophorectomy, omentectomy and

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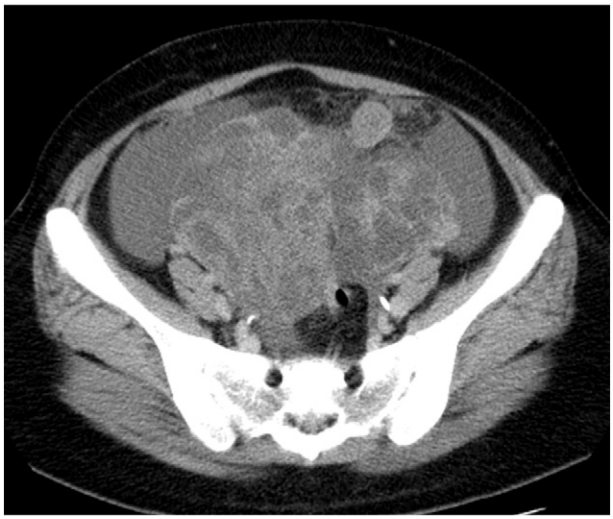

Fig. 1. Abdominal computed tomography (CT). CT scan revealed a huge solid and multicystic intraabdominal hemorrhagic mass and ascites.

resection of peritoneal dissemination after providing the family with an explanation of the alteration in plans and obtaining their agreement. Intraoperative findings showed prominent intraabdominal hemorrhage, enlarged right ovary with capsule rupture, and a disintegrated tumor of the right ovary. Intraoperative bleeding measured 3710 ml and there was adhesion between the ovarian tumor and sigmoid colon.

3. Pathological findings

Macroscopically, the right ovarian tumor was excised in multiple fragments due to disintegration, with the largest fragment being 14 × 8 × 2.5 cm (Fig. 2A). On cut surfaces, grayish- or yellowish-white solid components with several focal red–brown areas were observed. It was not clear where fragments had adhered to the sigmoid colon. The left ovary had a solid area measuring 6 × 5 × 3 cm, with macroscopic findings similar to the right ovarian tumor (figure, left) with paraovarian connective tissue containing a thin-walled cystic lesion measuring 8 × 4.5 cm (figure, right) (Fig. 2B). The greater omentum had two nodules, with the largest dimensions being 3 cm and 2 cm, respectively (Fig. 2C). In addition, there were disseminated lesions in the mesentery, peritoneum, pouch of Douglas and serosal surface of the uterus.

Microscopically, the tumor had solid areas (Fig. 3A) with focal tubular glands and also cribriform (Fig. 3B) and villoglandular patterns (Fig. 3C) composed of atypical epithelia without mucin accompanied by massive necrosis. A few bizarre nuclei were seen, particularly in the solid growth area (Fig. 3D). The bilateral ovarian cancer predominantly consisted of solid proliferation, but cyst-like structures, lined by tumor cells, were also evident (Fig. 3E and F). In the non-cancerous areas of the bilateral ovaries within each of 10 microscope slides made, there were no chocolate cysts but focally several moderately dilated follicular cysts were evident (Fig. 4A and B).

Immunohistochemically, tumor cells were positive for AE1/AE3, vimentin, ER, PgR and p53 and were negative for WT-1 and HNF1β (Fig. 5). MIB-1 LI value was high (>90%) (Fig. 5). Based on the above pathological findings, the diagnosis was ovarian endometrioid adenocarcinoma, Grade 3, FIGO stage IIIc.

Atrophic endometrium and endometriosis can be seen in the serosa of the uterus, (Fig. 4C).

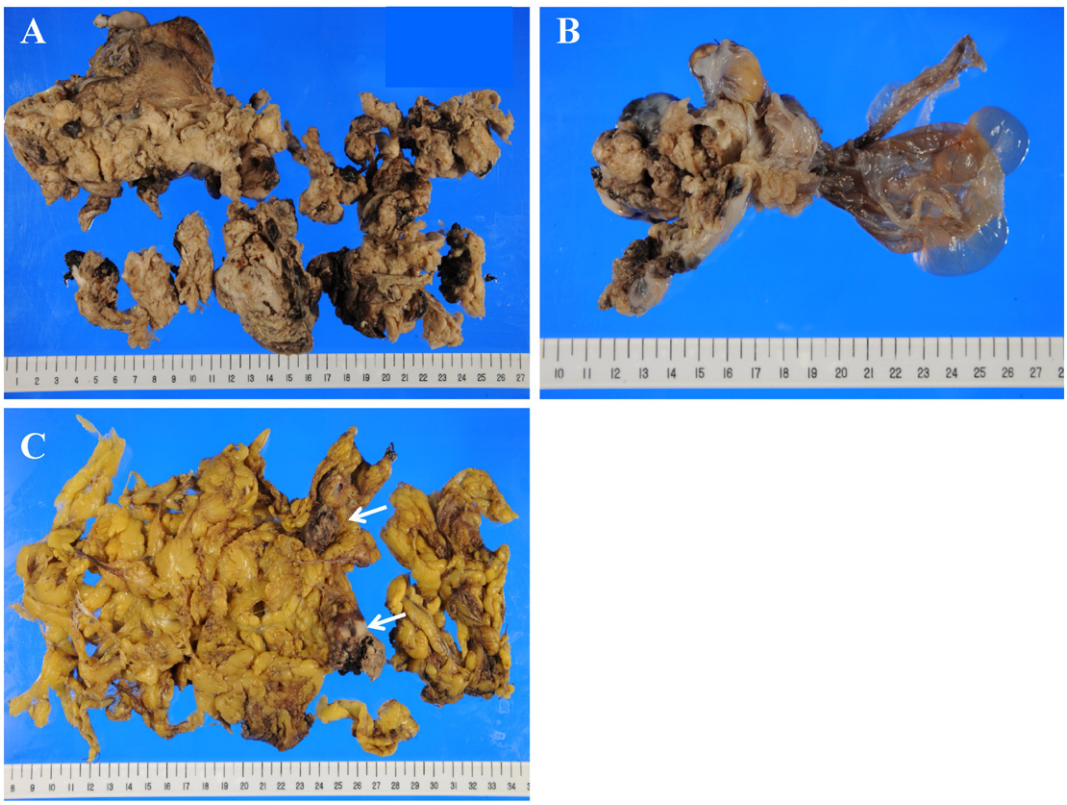

Fig. 2. Macroscopic findings for the ovarian tumors. (A) Multiple fragments of the right ovarian tumor, with the largest 14 × 8 × 2.5 cm (upper-left half). (B) Left ovary contained a solid area 6 × 5 × 3 cm (left) with paraovarian connective tissue containing a thin-walled cystic lesion measuring 8 × 4.5 cm (right). (C) Two fragments of the greater omentum consisting of adipose tissue measuring 18 × 14 × 2.5 cm and 11 × 6 × 1 cm, respectively, within which were two nodular lesions measuring 3 cm and 2 cm, respectively, at their greatest dimension (indicated by arrows).