Giant Ovarian Mucinous Borderline Tumors. A Report of Two Cases and Literature Review

Paraskeuas MITRAGKAS^a, Eirini SYNEKIDOU^b, Konstantinos HATZIMISIOS^b

^aDepartment of Obstetrics and Gynecology, General Hospital of Kozani, Kozani, Greece

^bDepartment of Surgery, General Hospital of Kozani, Kozani, Greece

ABSTRACT

Introduction: Adnexal masses are a common finding in gynecological sonographic examinations. Usually, these tumors are detected in early stages while they are asymptomatic. However, in some cases ovarian masses remain undetected and grow to giant size. The majority of these giant tumors are benign. Here we report two cases of giant ovarian mucinous tumors with areas of borderline malignancy.

Case description: We present the cases of two women, aged 45 and 54 years, with abdominal masses causing vague symptoms. Abdominal imaging revealed giant cystic masses arising from the pelvis. Both women treated surgically. The first woman underwent right adnexectomy and the second one a total hysterectomy with bilateral adnexectomy and omentectomy. In both cases, the histopathological diagnosis was giant ovarian mucinous borderline cystadenoma. On the 12-month follow up they do not report any discomfort.

Discussion and conclusion: Giant ovarian mucinous borderline tumors are uncommon and need surgical resection to eliminate the compressive symptoms that they usually cause. A giant abdominal mass must be always suspected in women with vague compressive symptoms.

Keywords: adnexa, cancer, gynecology, hysterectomy, neoplasm.

INTRODUCTION

Ovarian cysts are commonly diagnosed in routine gynecological examinations and they are the main cause of pelvic masses. It is reported that 7% of women will be diagnosed with an ovarian cyst at some point of their lives (1). In a large screening program, ovarian cysts were detected in 21.2% of participants. A study screening of 15 735 women with

trans-vaginal ultrasound revealed one or more ovarian cysts in 14,1% of participants (2). The advantages of imaging modalities and the establishment of routine examinations have increased the diagnosis of ovarian masses in early stages while they are asymptomatic and small sized. In some rare cases, ovarian masses can remain undiagnosed and grow to huge sizes.

Ovarian cysts that exceed 10 cm in diameter are called giant ovarian tumors. Herein, we describe two cases of giant ovarian masses treated

Address for correspondence:

Paraskeuas Mitragkas

Department of Obstetrics and Gynecology, General Hospital of Kozani, 1 Mamatsiou, 50100 Kozani, Greece

Tel: +00306945055924, email: mitragkas@gmail.com

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surgically in our department. In both cases, the final diagnose was giant ovarian mucinous tumor with borderline malignant areas. We do not declare any complication. The following report was written according to Scare guidelines (3). □

CASE DESCRIPTION

CASE 1

We present the case of a 45-year-old normal cycling woman (gravida 4, para 4) complaining of constipation and early satiety. Her symptoms started gradually the last 12 months. Her past medical and surgical history were unremarkable. On clinical examination, her abdomen was grossly distended and on palpation a painless soft mass was noted. An imaging study with abdominal ultrasound (US) was performed, which revealed a 24 cm cystic mass. Because the US could not recognize the origin of the mass, a computed tomography (CT) scan of the pelvis and abdomen was performed by us.

The CT scan revealed a 23.5 x 11 x 23.6 cm cyst of the right ovary with septations (Figures 1 and 2). All tumor markers were within normal ranges. The preoperative risk assessment (Risk for Malignancy Index RMI:32) was low for malig-

FIGURE 2. CT scan findings of case 1

nancy. A laparotomy with a midline incision was performed. The patient underwent a right adnexectomy without any complication. We managed to remove the mass without any spillage. A thorough surgical exploration was performed without any sign of metastases. The postoperative course was uneventful. The mass was sent for pathology examination. The final diagnosis was a giant mucinous borderline tumor of the right ovary. On the 12-month follow up the patient had normal CT scan and ca125 level.

FIGURE 1. CT scan findings of case 1

CASE 2

The second case was a 53-year-old postmenopausal woman (gravida 2, para 1) who presented with complains of abdominal bloating and epigastrium pain which started the last six months. Her past medical history was remarkable for hypertension. She had undergone a laparoscopic cholecystectomy five years ago. On clinical examination, her abdomen was distended and soft. Giordano, Mc Burney and Murphy signs were negative. During palpation a giant elastic mass was detected. On ultrasound imaging of the abdomen a huge cystic mass of the right ovary was noted. The mass was multiloculated with septations and had intracystic solid areas. All tumor markers were in normal ranges. The preoperative risk assessment (Risk for Malignancy Index RMI: 297) was high for malignancy. We performed a total abdominal hysterectomy with bilateral adnexectomy and omentectomy. The removal of the cyst was uneventful (Figure 3). No

FIGURE 3. Giant ovarian tumor of case 2

signs of extraovarian metastases were revealed from the surgical exploration. The postoperative course was without any complication. The mass was sent for pathology examination. The final diagnosis was a giant mucinous borderline tumor of the right ovary. No signs of recurrence or metastasis were found on the 12-month follow up. □

DISCUSSION

Mucinous ovarian tumors account for 15% of all ovarian neoplasms and range from benign cystadenoma to malignant cystadenocarcinoma. They are unilateral with smooth surface and contain viscous fluid (4).

Ovarian cystic masses with >10% borderline architecture are categorized as borderline ovarian tumors (BOTs), which are ranked in six subtypes; among those, serous BOTs (SBOTs) (50%) and mucinous BOTs (MBOTs) (45%) are the most common ones, and endometrioid, clear cell and Brenner borderline tumors the less common subtypes.

Mucinous BOTs, also described as atypical proliferative mucinous tumors, are categorized into intestinal type (85%) and seromucinous type (15%), which can progress to invasive mucinous carcinoma if untreated (5).

In the literature there are scarce reports of giant MBOTs with a variety of clinical manifestations. The most frequent symptoms are arising from the compression of the neighboring organs

such as the bowel, urinary track and veins. Abdominal bloating, constipation, bowel ischemia (6) hydronephrosis (7), cardiac failure and deep venous thrombosis due to reduced venous return (8) have been reported as compressive symptoms. Furthermore, patients with giant MBOTs can present with acute abdomen following torsion or rupture of the cyst (9). But in some cases, the diagnosis is incidental (10).

For the diagnosis an imaging study of the pelvis and abdomen is required. The trans abdomen ultrasound is preferred as a first-line imaging modality (11).

However, more advanced modalities such as CT scans and magnetic resonance imaging (MRI) provide more reliable information about the mass and anatomical structures in close proximity (12).

Tumor markers have been used for calculating the risk of malignancy of the detected ovarian masses, with Ca 125 being the most useful one. The index of malignancy risk, incorporating age, sonographic findings and ca125 level, has a high sensitivity (74.4%) and specificity (90%) in detecting ovarian cancer in women with adnexal masses (13).

Confirmed prognostic factors comprise a high International Federation of Gynecology and Obstetrics (FIGO) stage, residual tumor, and age. As opposed to ovarian cancer, borderline ovarian tumors are discovered in early stage (FIGO I), limited to the ovary(ies) and have an excellent prognosis. The overall five-year survival is 95-97% for (FIGO I) tumors and 65-87% for (FIGO II-III) tumors (14).

Giant ovarian tumors must be excised in order to relieve the compressive symptoms, to establish the final diagnosis and to determine the surgical stage. The preferred approach is through a midline incision to prevent spillage in the abdomen. Cystectomy, salpingo-oophorectomy and total hysterectomy with bilateral salpingo-oophorectomy can be used to treat giant BOTs. Moreover, laparoscopy is proven to be a safe and efficient treatment with reduced postoperative pain and shorter hospital stay than laparotomy (15). Recently, the results from a multicenter study suggested that conservative treatment (fertility sparing) did not increase the recurrence rate and detailed surgical staging (lymphadenectomy, appendectomy, and omentectomy) did not increase the survival rate (16). □

CONCLUSION

en the knowledge and raise awareness about this rare condition.

This report presents two women with surgically treated giant BOTs and intents to deep-

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