

CASE REPORT

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A rare case, severe preeclampsia in pregnancy with massive mucin ovary cyst: A case report

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ABSTRACT

Preeclampsia is a disorder in pregnancy associated with hypertension, which occurs after 20 weeks of gestation. Mucin ovarian adenoma cysts are rare in adolescence and during pregnancy. A 30-year-old female G4P2A1 patient with severe preeclampsia accompanied by cystic ovarian neoplasms came to the emergency room with an active phase of labor at 32 weeks of gestation, breech presentation, and severe anemia. Blood transfusion, cesarean section, and left salpingo-oophorectomy were performed. The patient's blood pressure returned to normal after two months post-surgery. There is no causative evidence between severe preeclampsia and neoplasm events. It needs optimal supervision in pregnant patients accompanied by gynecological disorders because it has a high risk for a complication such as preeclampsia.

Keywords: Mucin ovarian cysts, Preterm, Severe preeclampsia

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INTRODUCTION

Preeclampsia is a disorder in pregnancy associated with hypertension, which occurs after a gestational age of more than 20 weeks and often approaches term gestation [1]. Preeclampsia is estimated to be a complication in 2–8% of global pregnancy rates [1]. Complications of malignancy in pregnancy are 1 in 1000 pregnancies, and the prevalence is higher in the benign neoplasm [2]. Ovarian mucinous cystadenoma is a benign tumor originating from the epithelial surface of the ovary. These cysts are multilocular with a smooth outer and inner surface and tend to grow enormously [3, 4]. The percentage of mucin ovarian cysts is 15–20% of all existing ovarian tumors, and only 10% are borderline type [5, 6]. This mucin ovarian adenoma cyst rarely occurs during adolescence and pregnancy [7]. One-third of borderline mucinous tumors are diagnosed in women before 40 years old, the epidemiology and management of this tumors during pregnancy also still little known [8]. Borderline mucinous tumor mostly diagnosed during the first trimester and found it incidentally [9].

CASE REPORT

Patient information

This paper reports a 30-year-old woman, G4P2A1, diagnosed with cystic ovarian neoplasm two years ago and was advised to do surgery, but the patient refused. The patient did not realize that she was pregnant because she had irregular menstrual cycles and an enlarged abdomen due to the tumor. Pregnancy was diagnosed at 28 weeks gestational age when the patient

decided to do surgery because she felt the tumor was getting bigger. At that time the patient diagnosed with hypertension also. Pregnancy termination at 32 weeks of gestation because of signs of labor, accompanied by symptoms of severe preeclampsia and severe anemia with breech presentation. The patient was given a two-bag packed red cell (PRC) transfusion, emergency cesarean section, and followed by a left salpingo-oophorectomy.

Clinical findings

The patient had a blood pressure of 170/100 mmHg with positive proteinuria 1 (+), hypertension diagnosed since 28 weeks of gestation. On Leopold's examination, uterine fundal height cannot be assessed because the tumor mass covered it. On vaginal examination, it was found that the cervix dilated 7 cm, with a small part of the fetus (legs) was felt. On transabdominal ultrasound examination, it was found that multilocus cysts filled the entire monitor screen without any solid mass images (Figure 1). The patient appeared pale, conjunctival anemic with a hemoglobin value of 5.7 g/dL. Intraoperatively we found the left ovarian size was approximately 35 × 40 cm on abdominal cavity and for the right ovarian one was 3 × 3 cm in size, oval in shape, lie on the posterior wall of the pelvis, lateral to the uterus (Figure 2).

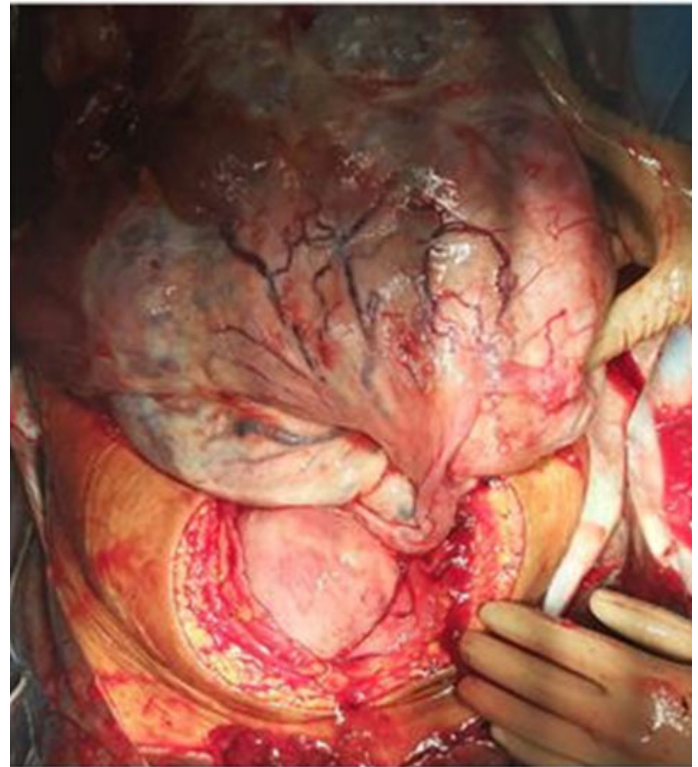


Figure 2: Left ovary as origin of the tumor (35 × 40 cm) (self documentary).

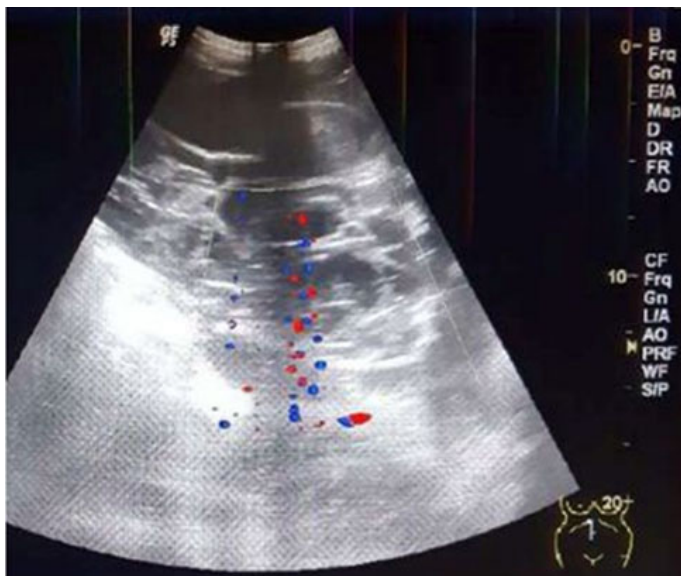


Figure 1: Transabdominal ultrasonography of the tumor seen as multilocus cysts (self documentary).

The course of disease

Diagnostic assessment

The results of the anatomic pathology examination of ovarian tissue concluded that borderline mucinous ovarian tumors and cytology results from ascitic fluid did not show the presence of malignant epithelial cells. Hemoglobin

level post-transfusion PRC even bag was 11 g/dL, tumor marker was Ca-125: 84.19 U/mL, and proteinuria + (positive-1).

Treatment intervention and follow-up

The patient received an $MgSO_4$ intravenous and a two-bag PRC transfusion. Cesarean section was performed with a midline incision, and a baby boy was born; birth weight was 1900 grams, length 40 cm, Apgar scores 6/9. The ovarian tumor was identified. Adhesion looks between the tumor with the intestine and the omentum. Adhesiolysis performed first and then a left salpingo-oophorectomy. On day five, post-operation, the patient's blood pressure was still unstable with a value of 184/123 mmHg. The patient consulted the Nephrology and Hypertension division and received combination therapy of Amlodipine 10 mg/8 hours/oral and Captopril 12.5 mg/8 hours/oral, which continued until two months post-surgery. The patient's blood pressure is within normal limits and free from antihypertensive medication already.

DISCUSSION

A study states that preeclampsia is associated with a 1.23-fold increased risk of developing cancer in all organs and even more than two times the risk of ovarian cancer.

However, a report states that preeclampsia has a protective effect for the occurrence of neoplasms in mothers with a history of preeclampsia who gave birth to a baby boy [10]. The patient was diagnosed with severe preeclampsia at 28 weeks of gestation, but she did not take medication regularly. Pregnancies accompanied by benign neoplasm have an increased risk of preterm delivery by 38% and tend to develop anemia [11, 12]. This patient has a low hemoglobin level, is classified as severe anemia, and the baby is born in preterm gestation. This mucinous type ovarian tumor often has an enormous size. A large tumor can cause complications due to compression effects, like tightness, pain, bloating, and urinary tract symptoms [7]. Preterm delivery at this patient due to the distension caused by the tumor initiates gap-junction protein, increasing maternal corticotropin-releasing hormone and estrogen levels, affecting myometrial contractility and cervical ripening [13]. Recurrence after cystectomy was 15% and one study recommended to do unilateral oophorectomy for conservative treatment because of the high recurrence after cystectomy [14]. There is no established guidelines for the best timing for the operation procedure, several groups suggest that the surgery to be performed between 14 and 22 weeks of gestation [8]. Conservative management is one of the good options also for women with borderline ovarian tumor who want to preserve their fertility [9].

The incidence of breech presentation is 10–15%, which in these patients is due to a tumor in the pelvis [15]. The mucin cyst on the left ovary with a large size causes the fetus to be pressed and unable to undergo intrauterine rotation so that the leg becomes the lowest part of the fetus. The best treatment for the mucinous type ovarian tumor is unilateral salpingo-oophorectomy or ovarian cystectomy [16]. This patient also underwent left salpingo-oophorectomy after the cesarean section.

Pregnant women with benign neoplasms increase the risk of gestational diabetes and preeclampsia and have a hospitalization period of approximately seven days or more or may experience rehospitalization [2]. This patient was treated for eight days, and after postoperative observation, the patient's blood pressure had decreased, and the blood pressure returned to normal after routine treatment for two months.

In this case, the tumor that occurred was a unilateral tumor on the left ovary with a large size and filled with fluid with a thick and spongy consistency characteristic of mucinous ovarian tumors. After surgery, patients should be followed up regularly to anticipate recurrences [17, 18]. Even though this tumor was removed entirely, this patient was still scheduled for follow-up every three months for one year.

Approval

The patient acknowledges and agrees to the discussion and publication of the clinical condition she has experienced.

CONCLUSION

No evidence states a causative effect between preeclampsia and the incidence of neoplasms, and vice versa. It is necessary to closely monitor the mother and fetus in pregnant patients with neoplasm abnormalities, especially in high-risk patients, such as preeclampsia. In patients of reproductive age and known to have a neoplasm, counseling should be given to the use of contraceptives.

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Author Contributions

Deviana Soraya Riu – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Efendi Lukas – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Guarantor of Submission

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Consent Statement

Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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