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Case Report

A 40-weeks ovarian pregnancy: a case report

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ABSTRACT

Ovarian pregnancy is a rare ectopic pregnancy, often misdiagnosed at advanced gestational age. We present a case of a 38-year-old woman at 40 weeks with ovarian pregnancy and fetal death, discovered during laparotomy at Mirebalais Teaching Hospital, Haiti. The patient presented with abdominal pain, light vaginal bleeding, and high blood pressure. Ultrasound suggested intrauterine fetal death and placenta previa, but the laparotomy revealed a non-gravid uterus and a large amniotic sac in the left ovary, suggesting a term ovarian pregnancy. A left adnexectomy was performed, and histopathology confirmed the diagnosis based on the Spiegelberg criteria. Despite complications, the patient had a good outcome. This case emphasizes the diagnostic challenges and the importance of early prenatal care to prevent complications life-threatening associated with advanced ovarian pregnancies.

Keywords: Ovarian pregnancy, Advanced gestational age, Laparotomy, Histopathological confirmation, Misdiagnosis

INTRODUCTION

Ovarian pregnancy is a rare non-tubal ectopic pregnancy in which the gestational sac implants within the ovary.[1] It is accounting for 0.5–3% of all extrauterine pregnancies.[2] The incidence of ovarian pregnancy ranges from 1 in 2,100 to 1 in 60,000 pregnancies.[3] The clinical presentation is similar to tubal ectopic pregnancy, with nonspecific symptoms such as vaginal bleeding and abdominal pain, but it can lead to complications such as peritoneal irritation and hemodynamic instability due to rupture.[1,2]

The diagnosis of ovarian pregnancy is most commonly made in the first trimester.[1] However, at advanced gestational age, preoperative diagnosis is challenging, often resulting in misdiagnosis.[4,5] Fewer than 3.7% of cases reach term, usually with fetal death.[5] Their sonographic diagnosis at this stage is particularly difficult.[1,3] The definitive diagnosis is made intraoperatively and by histopathological confirmation on the basis of well-codified anatomopathological criteria established in 1878 by Spiegelberg: the ipsilateral tube is intact and distinct from the ovary; the ectopic pregnancy occupies the ovary; the ectopic pregnancy is connected by the ovarian ligament to the uterus; and ovarian tissue can be demonstrated histologically in the placental tissue.[6,7]

In late ovarian pregnancies, there is a lack of standard protocol, or consensus regarding management. Then, the surgical approach by oophorectomy or adnexectomy is challenging due to the possibility of emergent complications.[8,9]
There are no data referring these cases in the Haitian medical literature. Here, we reported a rare case of ovarian pregnancy at 40 weeks associated with fetal death, discovered during a laparotomy at Mirebalais Teaching Hospital in Haiti, with a good maternal outcome.

CASE REPORT

This was a case of a 38-year-old, G4P3A0Lc3 patient, was seen for hypogastric pain associated with light vaginal bleeding, at the maternity triage of the Mirebalais Teaching Hospital.

The symptomatology which would have started 4 days ago from the consultation. The patient had no medical, family or surgical history. Regarding her obstetric history,

previously she had three physiological births at home for unmonitored pregnancies. Her current 4th pregnancy was unwanted, but accepted without any attempted abortion. Due to her low socio-economic status, she had not attended any prenatal consultations, and was presumed to be at term during evaluation. For toxic habits, she reported consuming only coffee, tea.

At functional review, she reported a severity feature as headache. On physical examination, her vital signs were showing only high blood pressure (156/96 mm Hg) with other normal parameters. The cardio respiratory status was unremarkable. The abdomen was enlarged, and a firm mass, similar to the fetal head, was palpated during the first step of Leopold's maneuver, without evidence of underlying contracture. The vaginal examination was avoided because of the suspicion of placenta previa.

A transabdominal ultrasound was only feasible, and showed a singleton fetus in breech presentation without cardiac activity, and skull deformation (Spalding sign). The estimated ultrasound age was 40 weeks. The ultrasound results misleaded to the diagnostic of an intrauterine pregnancy complicated with total placenta previa. Unfortunately, no images were saved. Laboratory results revealed a hemoglobin level of 9.1 g/dl, a white blood cell count of 9,300/µl, and a platelet count of 1,024,000/µl. Following careful counseling, a cesarean section was scheduled due to a preoperative diagnosis of placenta previa with intrauterine fetal death in breech presentation at full term in a multiparous patient with preeclampsia.

During laparotomy, a Pfannenstiel incision was made, revealing a non-gravid uterus but larger than normal size, and adhesions involving the right ovary and fallopian tube were seen. Also, posteriorly to the uterus, a large mass was identified as a thin-walled amniotic sac containing the dead fetus and placenta, filling the entire abdominal cavity (Figure 1a). Furthermore, exploration was limited due to the Pfannenstiel incision, in this setting an additional midline sub-umbilical incision was performed. The sac exhibited intense adhesions with the omentum, bowel, and ureteral path, requiring careful adhesiolysis (Figures 1b-d).

During the procedure, significant bleeding affected her hemodynamic status, and an intraoperative hemogram showed a hemoglobin drop to 6 g/dl. Subsequently, the patient was transfused with the only available unit of blood after a 30-minute delay, and hemostasis was also achieved. After adhesiolysis, the sac was found in the left ovary's position, attached to the uterus via the utero-ovarian ligament (Figure 2a). The left fallopian tube was intact but elongated and adherent to the surface of the sac The left infundibulopelvic ligament was significantly enlarged by blood vessels which served as the main blood supply to the sac (Figure 2b).

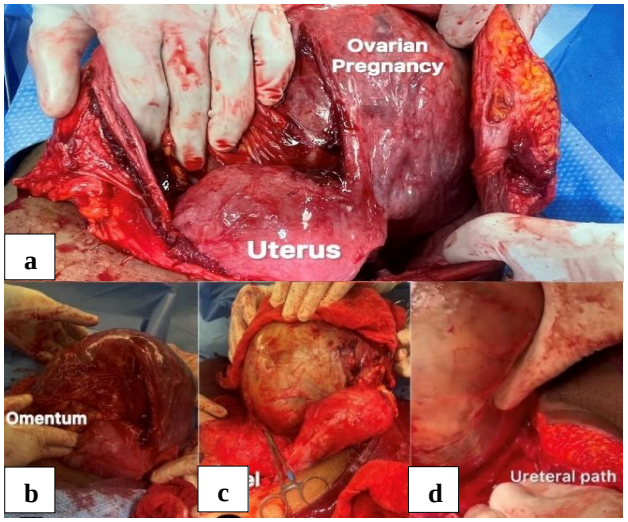

Figure 1: Intraoperative findings, (a) uterus non gravid with the ovarian pregnancy posteriorly, (b) adhesion with omentum, (c) adhesion with the bowel, and (d) adhesion with the ureteral path.

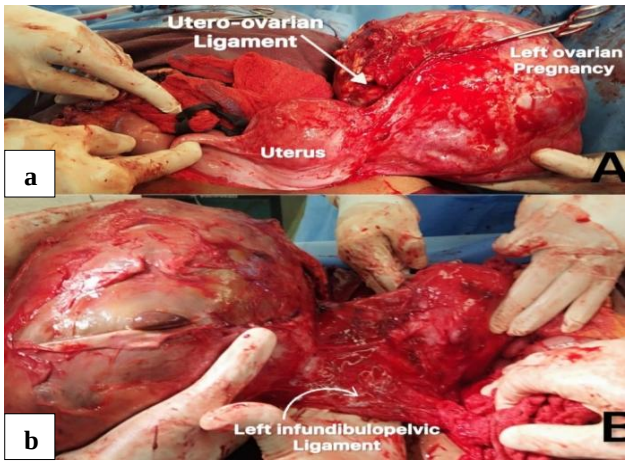

Figure 2: (a) Ovarian pregnancy connected to the uterus by the utero-ovarian ligament, and occupied the left ovary, and (b) enlarged left infundibulopelvic ligament.

Besides, the per-operative diagnosis of a term left primary ovarian pregnancy was evoked (Figure 3a). Then a left adnexectomy was performed, removing the sac containing the dead fetus, the placenta along with the ovary (Figure 3b). The incision of the operative part revealed a macerated female fetus weighing 3035 grams with the placenta implanted in the ovarian stroma (Figures 3c and d). Additionally, the sac containing placenta, cord and ovary was sent for histopathological examination (Figure 4).

At the end of the procedure, she was sent to intensive care unit. After 6 hours of stabilization, she was transferred to the gynecology service, where she developed during her stay a paralytic ileus which was successfully managed. The post transfusion hemogram showed a hemoglobin

level at 8 g/dl. Following a satisfactory clinical evolution, she was discharged on the 9th postoperative day. Despite receiving counselling on contraception, the patient declined all options. She received psychosocial support in post operatory. A two-week follow-up showed no complications.

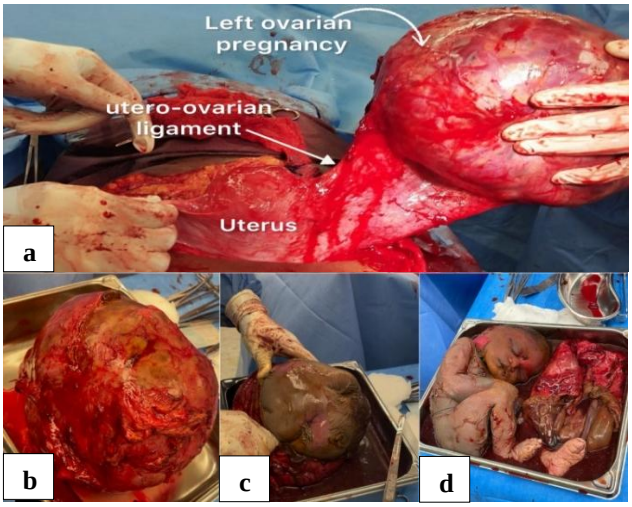

Figure 3: (a) Ovarian pregnancy individualized, (b) operative part of adnexectomy, (c) incision of the sac, and (d) macerated fetus with umbilical cord and placenta.

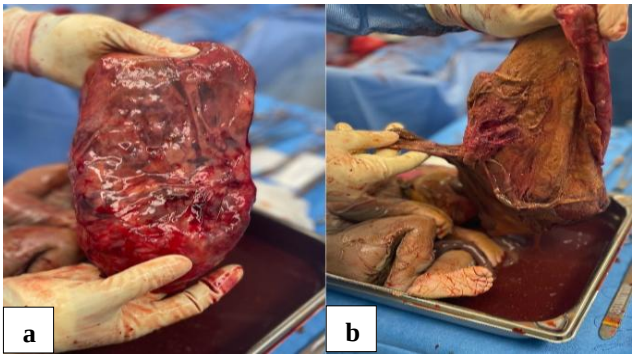

Figure 4 (a and b): Amniotic sac with ovarian parenchyma and placental attachment.

The histopathology results received after three weeks confirmed ovarian tissue within the amniotic sac. Macroscopically, the ovarian wall measured 35×32 cm and weighed 526 grams, while the placenta measured 24×20 cm and weighed 170 grams, with the umbilical cord measuring 30×2 cm. Microscopically, the ovarian tissue showed signs of necrosis, follicle loss, stromal hyperplasia, hemorrhage, inflammation, and edema. The placenta exhibited necrosis, trophoblastic loss, infarction, hemorrhage, inflammation, fibrosis, and vascular occlusion in the umbilical cord.

These findings led to the diagnosis of a term placenta with ovarian tissue and ovarian pregnancy (Figure 5).

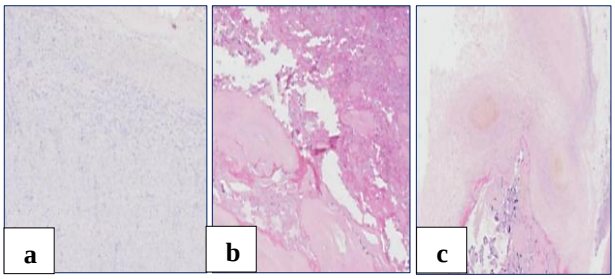

Figure 5 (a-c): Histopathological slides confirmation of tissue ovarian making up part of the amniotic sac for ovarian pregnancy.

DISCUSSION

The occurrence of ovarian pregnancy is extremely rare, representing 0.5-3% of all ectopic pregnancies, with presentations at advanced gestational age, such as at term, being even rarer.[1,2] This condition related a significant diagnostic challenge and dilemma for obstetricians.[2]

This type of pregnancy is usually detected and terminated during the first trimester at initial prenatal visit, however, some progress to the second trimester (5.3%), or in the third trimester (3.7%).[4] Full-term ovarian pregnancies, such as our case, are extremely uncommon.

In fact, late ovarian pregnancy is exceptional and the clinical approach can be problematic at term, especially in the absence of routine prenatal visits, as noted in the history.[4] In our case ,the patient was evaluated for the first time at 40 weeks, with clinical findings of abdominal pain initially attributed to the onset of labor, while vaginal bleeding appeared sentinel, leading to a misdiagnosis placenta previa.[7] Also it is difficult to confirm diagnosis of ovarian pregnancy with certainty through ultrasonography regardless of the time of its realization.[1] In its early form, it is often confused with a hemorrhagic corpus luteum **and** may mimic those of tubal pregnancies, ruptured corpus luteum, or adnexal masses in the absence of a yolk sac or fetal heart motion.[2,12] In its later stages, during the 2nd or 3rd trimester, the sonographic interpretation will be difficult given fetal development.[1,2] The fetal prognosis in late ovarian pregnancies is generally poor, as was the case in our patient.[4]

Our sonographic evaluation mistakenly identified the condition as fetal death in breech presentation with placenta previa, leading to the initial plan for a C-section. Unfortunately, ovarian pregnancy was not detected preoperatively which was also the case in the reports by Noppamart et al, Meethong et al, and Sehgal et al.[4,5,7]

This case was particularly challenging, as the definitive diagnosis of late ovarian pregnancy cannot be made until laparotomy, intra operatively.[6,10] The surgical management is approached by oophorectomy or adnexectomy, with risks of facing during the laparotomy serious complications as adhesions, massive hemorrhage,

disseminated intravascular coagulation (DIC), bowel perforation, and hemodynamic instability, all of which can be life-threatening.[8,9] Therefore, preoperative preparation with a multidisciplinary surgical team, along with the assurance of sufficient availability of blood products are crucial.[8,9]

In our case, the late ovarian pregnancy was fortuitously discovered during laparotomy, along with bowel and ureteral path adhesions. Then, adhesiolysis was performed, resulting in hemorrhage and hemodynamic instability, a serious complication. After 30 minutes, the only available blood product was administered, and transfusion was initiated intraoperatively. Fortunately, no further complications occurred. This case highlights the importance of a health system to secure prenatal visits for pregnant women to potentially avoiding misdiagnosis and favoring early management of ovarian pregnancy to not performing a high risky surgery where blood products are not available.

While proceeding the adnexectomy, the case fulfilled the four criteria establish by Spiegelberg for the diagnosis of ovarian pregnancy: the tube on the affected side was intact, the gestational sac occupied the normal position of the ovary, the gestational sac and ovary was connected to the uterus by the ovarian ligament, and ovarian tissue was found in the wall of the sac with histopathological confirmation.[10,13] The results were received 3 weeks postoperatively, distinguished primary ovarian pregnancies from other ectopic pregnancies in which the ovary is secondarily involved.[11]

Few cases of late ovarian pregnancy, such as at 40 weeks, have been reported, and no absolute consensus exists with regarding the appropriate management of this condition, given the high possibility of preoperative misdiagnosis, and the risk of serious intraoperative complications.[9] We can say with expertise and vigilance of our care team, our patient had a good outcome. Because her low economic situation, the patient was unable to access early and regular prenatal care which could have facilitated an early diagnosis through first-trimester ultrasound. This might have prevented the late discovery at laparotomy and the associated complications, which could have compromised her prognosis.

CONCLUSION

Ovarian pregnancy remains a rare condition of ectopic pregnancies, and its evolution at advanced gestational age like full term, becoming exceptional and is rarer. The diagnosis of ovarian pregnancy is problematic due to delay in prenatal care follow-up, and as pregnancy progresses into the third trimester, ultrasound recognition becomes increasingly difficult, making misdiagnosis common during this period. However, However, the definitive diagnosis is made intraoperatively and confirmed through histopathological examination. Early preoperative diagnosis is important to prevent emergency and adverse maternal-fetal outcomes with adapted and organized management, especially in low resource location, or rural setting. The implementation of health care system based on social medicine, will improve the access of standard prenatal care, that will help in early diagnosis of certain conditions that is life-threatening, and reducing mortality-morbidity.

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