ABSTRACT • A case of advanced tubal pregnancy at 14 weeks is reported. Timely presentation of the patient to the emergency department saved her life although her clinical status was rapidly deteriorating once tubal rupture had started. Discussing this case is needed to shed the light on the basics to prevent life threatening complications.

Keywords : tubal, ectopic, pregnancy, advanced tubal pregnancy

INTRODUCTION

Ectopic pregnancy is a leading cause of maternal morbidity and mortality in early pregnancy with case fatality exceeding 1% in some developing countries [1-3]. Maternal morbidity, being measured in terms of the need for blood transfusion, is frequent in more than 50% of cases [2,4]. Although the available tests of vaginal ultrasound and beta-HCG* allowed early diagnosis of tubal pregnancy, thus decreasing the incidence of ruptured advanced cases [5], late diagnosis is a major risk factor for complications and emergent surgical interventions [6].

CASE REPORT

A 21-year-old pregnant woman, gravida 4 para 2 aborta 1, presented at 14 weeks of gestation with sudden onset of severe abdominal pain to the emergency department. The pain started on the morning of the same day, and suddenly became severe with recurrent episodes of vomiting. Her obstetrical history showed current pregnancy on top of intrauterine device that was removed, in a clinic, once pregnancy test was positive.

Physical examination revealed unresponsive patient with hemodynamic instability; she was hypotensive and tachycardiac. Lungs were clear. Abdomen was distended with diffuse tenderness and rigidity especially over the right lower quadrant region. Aggressive intravenous hydration was started, and blood was drawn for cross matching.

Bedside abdominal ultrasound was done and showed empty uterus with an intact gestational sac with a live fetus (Crl = 6.96 cm)** above the uterine fundus to the right side. Transvaginal ultrasound suggested an empty uterus with no intrauterine pregnancy, cul-de-sac was filled with fluid. (Figure 1). The differential diagnosis was advanced ruptured tubal pregnancy, where the intact gestational sac was expelled out of the tube leaving edges of the tube bleeding in the peritoneal cavity. The presence of acute severe pain was in favor of ruptured tube rather than intact abdominal pregnancy. So, urgent laparotomy was planned.

On laparatomy, peritoneal cavity was full of blood and blood clots (estimated blood loss was 2 L), suctioning of blood was done and further exploration revealed ruptured right fallopian tube with a 14 weeks fetus attached by umbilical cord to placenta that was implanted on the ampullary portion of the tube. The fetus weighed 35.4 g and measured 11.5 cm in length. The left tube and ovary were normal. A right salpingectomy was performed. The ruptured tube measured 5.5 cm and the lumen was filled with spongy placental tissue. The rest of the tube was swollen measuring 5 cm in diameter (Figure 2).

During surgery, the patient was tachycardiac and hypotensive, so transfusion of two packed red blood cell and two fresh frozen plasma was started in addition to adequate intravenous hydration. Homeostasis was secured and the patient left the operating room in stable condition.

The pathology showed fresh male fetus attached to a stump of umbilical cord measuring 2 cm [in length], and a fresh ruptured tube. Histology showed intratubal placental villi, immature, showing a loose mesenchymal core

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*beta-HCG: β-human chorionic gonadotropin

**CRL: crown-rump length
with two-layered trophoblasts. The tubal wall showed markedly thickened muscularis with gestational hypertrophy of smooth muscularis cell. A thick fibrinolucocytic exudate covered the implantation site; the mucosal stroma was largely decidualized.

The patient had smooth postoperative course and she was discharged home on the third day after surgery.

**DISCUSSION**

The reported incidence of ectopic pregnancy is about 20 per 1000 pregnancies [7]. Risk factors include the presence of sexually transmitted diseases, tubal abnormalities, intrauterine devices, endometriosis, previous pelvic surgeries and in utero exposure to diethylstilbestrol [5]. The majority of the ectopic pregnancies are tubal; either ampullary (70%), isthmic (12%), fimbrial (11%), or interstitial (2.4%). Rupture of the tubal pregnancy usually occurs at around seven weeks of gestation [8]. History of previous ectopic pregnancy, Beta-HCG level > 5000 mIU/ml, higher gestational age – over 8 weeks – and high parity are important risk factors that predispose to tubal rupture [9-11].

Our case is a rare presentation of advanced tubal ectopic pregnancy. There are few cases of advanced tubal ectopic pregnancy quoted in the literature. In 1951, a 13-week intact tubal pregnancy was reported [12]. In 1986, Chokroverty et al. reported an intact tubal pregnancy that was diagnosed at 42 weeks of gestation, the patient presented with decreased fetal movements; after proper management and diagnosis of empty uterus, laparotomy was done, a right-sided, unruptured tubal mass containing a macerated fetus was found [13].

Recently, in the new millennium, cases of advanced tubal pregnancies are still reported at 13 weeks [14], 17 weeks [15], 18 weeks [16,17], 23 weeks [18], 24 weeks [19], 30 weeks [20] and beyond term [21]. The main presentation of these cases was acute abdomen and urgent salpingectomy was performed. Two cases were unruptured tubal pregnancies that presented with abdominal pain due to tubal expansion [15,19]. To prevent this late diagnosis of ectopic pregnancy, early pregnancy ultrasound should be considered. In a prospective study including 6621 women, the sensitivity of transvaginal ultrasound to detect ectopic pregnancy was 90.9% and its
specification was 99.9% with positive and negative predictive values of 93.5% and 99.8%, respectively [22]. Using ultrasound and beta-HCG, patent tubal pregnancy can be diagnosed at 6.9 ± 1.9 weeks [7] and this is essential to prevent considerable maternal morbidities and operative interventions.

Regarding our case, the patient had her pregnancy on top of copper intrauterine device (IUD). Dating of the pregnancy was the same using the last menstrual period and the bedside ultrasound. Although most of the pregnancies occurring with IUD in situ would be intrauterine, the risk of having ectopic pregnancy is 1 in 20 [23]. The overall risk of having pregnancy with IUD is 1-2% [23,24] and the overall risk of having ectopic pregnancy with IUD is 1 in 1000 over 5 years [23]. Thus the IUD does not increase the risk of ectopic pregnancy but if pregnancy has occurred, it is more likely to be ectopic [25]. Once pregnancy is diagnosed with IUD in situ, vaginal ultrasound should be done to rule out any ectopic pregnancy. If the pregnancy is intrauterine, risk of abortion, infection and preterm delivery is high, so pregnant women are advised to have their IUD removed before 12 weeks of gestation [23]. Because our patient was followed by her private obstetrician, we cannot confirm whether the intrauterine pregnancy was documented before removal of the IUD. Otherwise, the resultant morbidity that the patient suffered from could have been prevented by early diagnosis and even medical treatment of the properly diagnosed ectopic pregnancy.

In conclusion, the key to prevent serious complications of tubal pregnancy is to use early pregnancy ultrasound to confirm intrauterine pregnancy and to rule out any ectopic pregnancy.

REFERENCES

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