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Presentation of a Previous Cesarean Scar Ectopic Pregnancy with Hypovolemic Shock

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Abstract

Introduction: The prevalence of ectopic pregnancy is 1 to 2% and a previous cesarean section scar ectopic pregnancy or hysterectomy occurs as rare as 1 per 2000 pregnancies. In the current case report, the authors introduced ectopic pregnancy in cesarean scar with unstable hemodynamic condition and surgical management to preserve uterus.

Case Presentation: A 31-year-old pregnant female in the 9th week of pregnancy was admitted with vaginal bleeding and slight pain in the hypogastrium. The cesarean scar pregnancy was confirmed by sonography. In the course of hospitalization, due to the patient's hemodynamic instability, the emergency laparotomy was performed. In the previous cesarean section scar, a 3 × 4 cm mass with a massive hematoma was found. It was removed and placental bed was sutured. Since the vaginal bleeding continued, the uterine artery ligation was carried out and due to severe bleeding, Foley catheters were packed inside the uterus. Two days later, the patient was discharged from the hospital in good general condition.

Conclusions: Despite the rarity of ectopic pregnancies in the previous cesarean section scars, paying attention and having this kind of pregnancy in mind can aid its early diagnosis and reduce possible morbidity and mortality including uterine rupture and severe bleeding, which can be considered as its irreversible complications.

Keywords: Pregnancy, Ectopic Pregnancy, Methotrexate

1. Introduction

The prevalence of ectopic pregnancy is 1 to 2%; in addition, 90% of such pregnancies occur in the fallopian tubes and the other 10% occur in the abdominal cavity, ovary and cervix, and previous cesarean scar. A previous cesarean section scar ectopic pregnancy or hysterectomy occurs as rare as 1 per 2000 pregnancies (1-3). The mechanism of embryo replacement indicates the existence of a microscopic fistula or a defect in the lower uterine segment (3, 4). In the symptomatic patients, clinical symptoms, which can be life-threatening, may vary from vaginal bleeding, with or without pain, to uterine rupture and hypovolemic shock (5-7). The proper treatment of cesarean section scar ectopic pregnancies is not yet known and it mainly depends on a patient's clinical status. Patients with bleeding and hemodynamic instability require surgical interventions, which may include laparoscopy, laparotomy, and hysterectomy (8). In patients with stable vital signs, the treatment may include curettage and taking methotrexate (9).

Other cases of pregnancy in a previous cesarean section scar were also reported; the treatment of which varied from methotrexate therapy and uterine artery embolization in a case study carried out by Tuplin et al., to laparoscopy in a case study conducted by Hudecek et al. (10, 11).

In the current study, laparotomy was performed on a patient with tachycardia, abdominal pain, and sweating diagnosed with a cesarean scar pregnancy.

2. Case Presentation

A 31-year-old pregnant females (gravida 4, para 3), with 3 cesarean sections, in the 9th week of pregnancy referred to the emergency obstetric unit of Ghaem Hospital of Mashhad, Iran, in November 2015. The patient was admitted with the complaint of vaginal bleeding and pain in the hypogastrium that had started 3 days prior to referring to the hospital. In the performed sonography, an irregular gestational sac containing fetal pole and cardiac activity was observed in the lower part of the uterus above the cervix. The gestational sac was located near the previous cesarean section scar. In the Doppler ultrasound examination, a hematoma was observed above the gestational sac. At the time of admission to the hospital, the patient's vital signs were normal. Initial laboratory tests showed that the hematocrit, hemoglobin, and β-hCG were respectively 24%, 7.5 g/dL, and 8100 mIU/mL.

In the course of hospitalization, 6 hours after admission, the patient experienced a severe hypogastric pain with sweating and dizziness. In the physical examinations, the patient had low blood pressure, tachycardia, tenderness, and rebound tenderness. Hence, the patient was transferred to the operating room and laparotomy was performed. In the previous cesarean section scar, a 3 × 4 cm mass with a massive hematoma was found and was drained away. The placental bed was sutured. Since the vaginal bleeding continued, the uterine artery ligation was carried out and due to severe bleeding, 3 Foley catheters were packed inside the uterus. The patient received 2 units of blood. Two days later, after removing the Foley catheters, the patient was discharged from the hospital in good general condition. Three weeks after the surgery, the β-hCG level was 0 and her general condition was good.

3. Discussion

The patient in the current study had an ectopic pregnancy in her previous cesarean section. Due to the severity of symptoms, the emergency laparotomy was performed on the patient. Ectopic pregnancy is a major cause of mortality and morbidity in females of childbearing age. Previous cesarean scar ectopic pregnancies should be diagnosed and treated as soon as possible (12). This disease occurs as the result of implantation in the myometrium at the site of a previous cesarean section scar. Several studies indicated that this process does not have anything to do with the number of previous cesarean sections and many cases of cesarean scar pregnancies were observed in patients who had 1 cesarean section (12, 13). In the current case, the cesarean section scar ectopic pregnancy caused unstable vital symptoms, bleeding, and anemia. Therefore, the patient was in need of receiving blood. In many patients, replacement occurs at the site of uterine scar. Uterine scar defects were reported in females with the history of cesarean sections and/or traumas including curettage, myomectomy, metroplasty, hysteroscopy, and even manual removal of the placenta (14, 15).

The most prevalent symptom of this kind of pregnancy is bleeding without pain, which can be severe (3). Uterine rupture and hypovolemic shock are other symptoms of ectopic pregnancy. Therefore, early diagnosis plays a key role in preventing the complications. In this regard, some important differential diagnoses including accreta and cervical ectopic pregnancy should be considered (12).

The diagnosis is usually possible through transvaginal ultrasound and color Doppler sonography. The results of sonography that can aid to diagnose this kind of pregnancy include the large size of cesarean scar, the existence of a mass in this area, the presence of trophoblastic tissue between the bladder and anterior uterine wall without any fetal parts, and the absence of myometrium between the gestational sac and ladder. The diagnosis in the patient mentioned in the current study was conducted based on the results of sonography. Doppler ultrasound and MRI can be regarded as other diagnostic procedures (13, 15).

The treatment methods, which are determined based on the gestational age, tendency to get pregnant in the future, and hemodynamic status of patients vary from medical treatments to surgery and may include wedge resection by laparoscopy or laparotomy, hysteroscopic excision, injection of potassium chloride into the sac, and local and systematic injection of methotrexate (4, 5, 14). Among the disadvantages of the medical treatment, the time it takes to destroy what is created as a result of pregnancy can be mentioned. This disadvantage may increase the risk of uterine rupture and bleeding and can lead to hysterectomy (12).

In a case study carried out by Tulpin et al., it was reported that a 32-year-old female was admitted to the hospital with uncontrollable vaginal bleeding and hypovolemic shock and diagnosed with ectopic pregnancy in the previous cesarean section. This patient was treated by methotrexate and bilateral uterine artery embolization (10). Moreover, a case study conducted by Hudecek et al., reported that a 34-year-old female in the 7th week of pregnancy was diagnosed with ectopic pregnancy in the previous cesarean section scar and was treated by laparoscopy (11).

Due to increasing the risk of uterine rupture and maternal mortality, watchful waiting is not recommended (2). After diagnosing this kind of pregnancy, the proper treatment should be initiated as soon as possible. Due to unstable vital signs, the laparotomy was carried out for the patient mentioned in the current study.

3.1. Conclusion

Despite the rarity of ectopic pregnancies in previous cesarean section scars, considering this kind of pregnancy can aid its early diagnosis and reduce possible morbidity and mortality including uterine rupture and severe bleeding, which can be considered as its irreversible complications.

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