Original article

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CESAREAN SCAR ECTOPIC PREGNANCY: SURGICAL TREATMENT

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Cesarean scar ectopic pregnancy is one of the rarest forms of ectopic pregnancy. It occurs in approximately 1 out of 2000 pregnancies. There are many challenges in its diagnosis and management which if not recognised can endanger the patient and provide poor outcomes, with a high rate of maternal morbidity or mortality. In cesarean scar ectopic pregnancies an embryo attaches to the scar tissue from the previous cesarean section and grows in the uterine wall that is not strong, so it may cause life-threatening hemorrhage, leading to a hysterectomy and potential devastating consequences.

This is a case report of a 35-year-old pregnant woman, with cesarean scar ectopic pregnancy, who has one cesarean section in her medical history and was treated by ultrasound-guided suction curettage.

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Key words: *ectopic pregnancy, cesarean scar, suction curettage*

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Introduction

The ectopic pregnancy is increased with the increase of the incidence of cesarean section, which also results in a higher rate of cesarean scar ectopic pregnancies. It is the rarest form of ectopic pregnancy. It occurs in approximately 1 out of 2000 pregnancies (1). The cesarean scar ectopic pregnancies can be presented in two forms: endogenous where the gestational sac enlargement does not show a tendence to devastate the uterine wall, and may reach viable gestation, and the other, exogenous, which grows through the myometrial defect toward the bladder and have a high risk for uterine rupture and intra-abdominal hemorrhage (2). In cesarean scar ectopic pregnancies an embryo attaches to the scar tissue from the previous cesarean section and grows in the uterine wall that is not strong, so it may cause life-threatening hemorrhage, leading to a hysterectomy and potential devastating consequences.

In this report, the authors present surgical treatment of cesarean scar ectopic pregnancy using ultrasound-guided suction curetage.

Case report

Our patient is a 35-year-old woman, who came to our clinic with suspected ectopic pregnancy with painless vaginal bleeding. A cesarean section was performed in a previous birth, 7 years ago. We performed a physical examination: her vital signs were stable. A pelvic examination showed slight vaginal bleeding, with a closed cervix. There was no pain in the uterusand no enlargement. Adnexal masses weren't present. The rectouterine pouch (cul-de-sac) was empty. The Prust sighn was negative. Beta human chorionic gonadotropin (beta HCG) was positive–3650 mIU/ml. Transabdominal and transvaginal ultrasound showed a gestational sac with an embryo and positive fetal cardiac activity localised in the scar of the previous cesarean section (Figure 1). CRL was 3.7 mm. There was also a yolk sac. The uterine cavity was empty, and the cervical canal was also empty. A thin myometrium was visualized but did not invade the bladder wall (Figure 2). We used diagnostic criteria as described in the Green-top Guideline of Royal College of Obstetrics and Gynecology: Diagnosis and Management of Ectopic Pregnancy GTG 21 (3). Beta HCG was repeated after two days, and it almost doubled–7120 mIU/ml. We discussed with the patient her options for treatment after the diagnosis was confirmed. She was presented with possible management including administration of Methotrexate, which can be local and muscular, or

surgical treatment using ultrasound-guided suction curetage, a hysteroscopic suction or laparoscopic resection. She gave her consent to ultrasound-guided suction curetage. She got an explanation of the potential risks of massive bleeding, possible laparotomy and even hysterectomy. After preparation, and informed written consent, under ultrasound guidance, we performed complete suction evacuation of the conceptus with Suction Cannula 10 (Figure 3). We did not have any complications during this procedure, which was confirmed using post-procedure ultrasound. There was no active bleeding in the uterine or abdominal cavity, or retained products. The uterine wall was intact.

After a full recovery, on the same day, the patient was discharged home. Beta HCG was repeated a few more times, until it was negative.

Two weeks after surgery the patient was fine, and the ultrasound examination showed an empty uterine cavity with an intact uterine wall (Figure 4). Histopathology showed the products of conception.

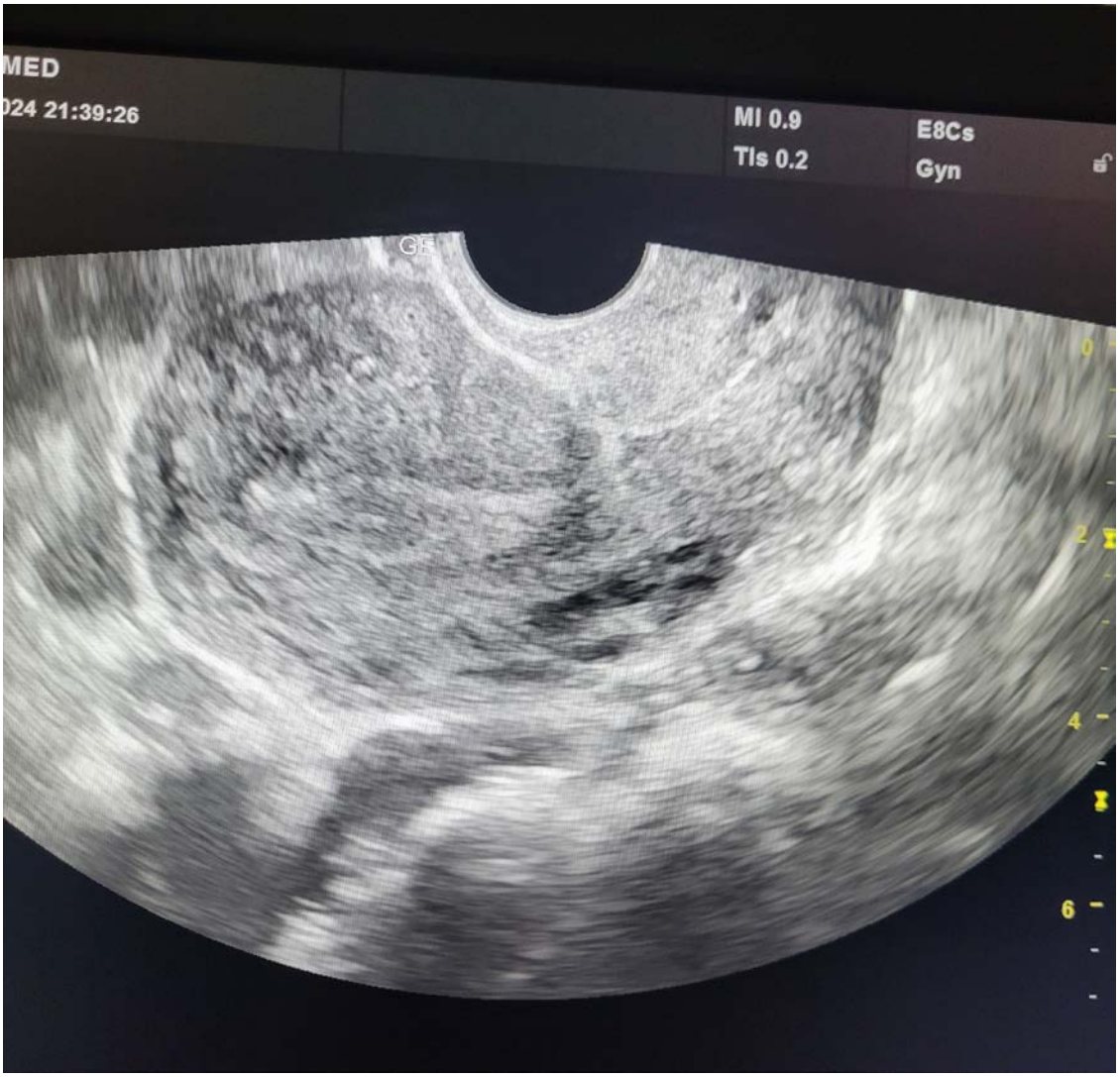

Figure 1. Uterus two weeks later

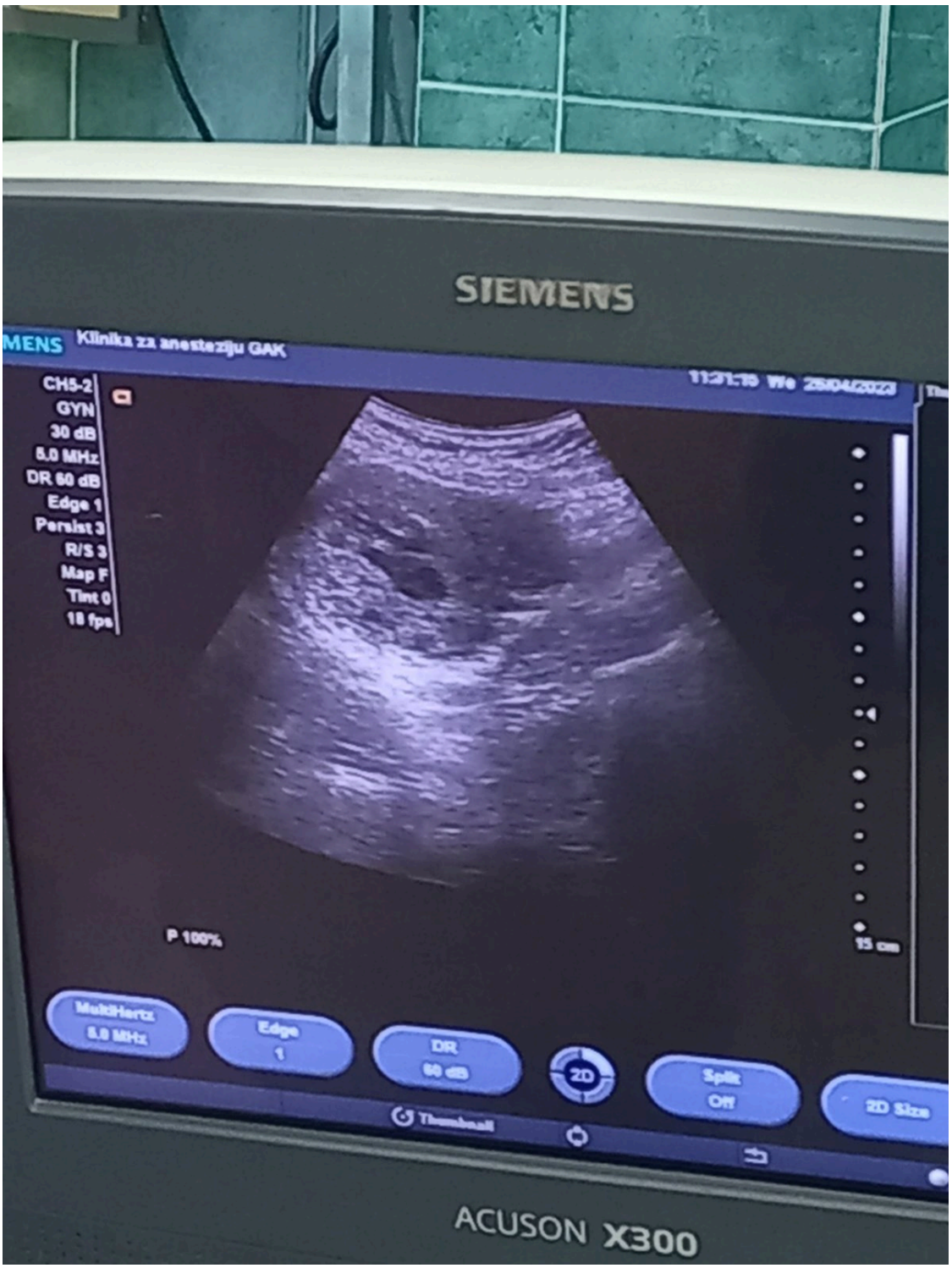

Figure 2. Collapsed gestational sac

Figure 3. Vital pregnancy with intact bladder wall

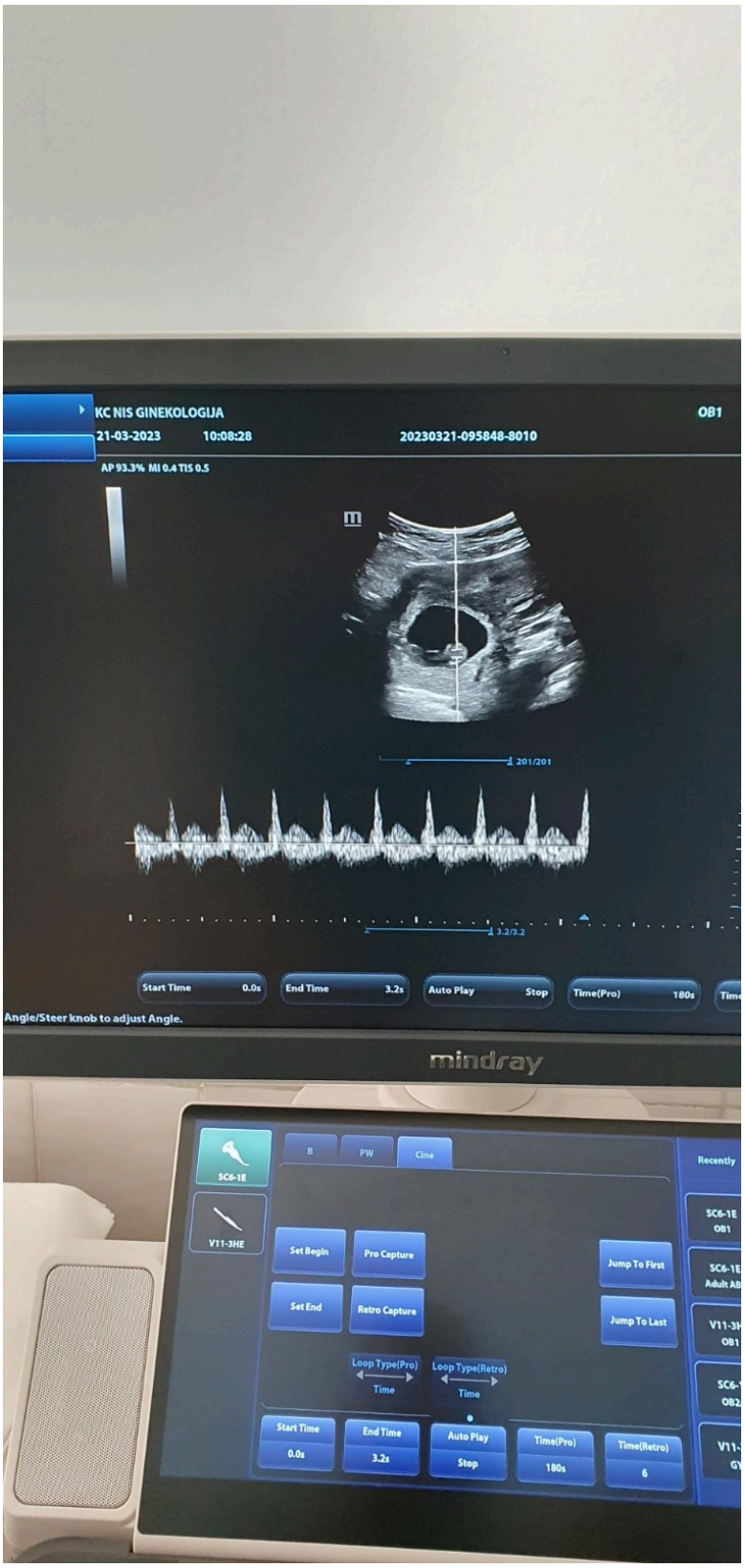

Figure 4. Vital pregnancy localised ob scar of previous SC

Discussion

Cesarean scar ectopic pregnancy is one of the types of ectopic pregnancy, where the conceptus implants itself into the scar in the uterus. It is associated with high morbidity and mortality in pregnant women, and may cause fatal outcome (4).

The conceptus may implant itself in the scar tissue in the uterus made by cesarean section, or other uterine surgery, such as myomectomy (5), manual removal of placenta in previous labour (6), or after *in vitro* fertilisation in the absence of uterine surgery history (7). However, this type of pregnancy is always abnormal, conceptus implants itself in the scar tissue, without decidualized endometrium. Symptoms are very scarce and slight vaginal bleeding, or abdominal pain may occur (8). There are no pathognomonic symptoms for cesarean scar ectopic pregnancy (9). The first step to getting right diagnosis is the use of transvaginal and transabdominal ultrasound. There are several criteria: 1. implantation settled in the scar of the previous cesarean section, 2. visualized functional throphoblastic tissue by ultrasound Color Doppler, 3. impossibility for removing the gestational sac with pressure applied by transvaginal probe (10). The best way to manage this rare condition is early termination of pregnancy, which provides a lower risk of hysterectomy and preserves the women's fertility.

There are a few ways to manage this condition: medical or surgical. Surgical approach can be transabdominal or transvaginal (transcervical) (11). We can use a transabdominal approach for treatment, which can be laparotomy or laparoscopy according to a patient's condition (12−14). The transvaginal approach can be suction curettage or hysteroscopic management (15−17). Laparoscopic managament can be performed itself or combined with transcervical. Medical treatment with Methotrexate can also be performed (18). In order to reduce bleeding during the procedures uterine artery embolisation can be used, or a double balloon catheter to tamponade the bleeding.

In this pregnant woman, the ovum was implanted in the scar of the previous cesarean section. There was positive fetal heart rate and CRL was about 6 to 7 weeks of gestation. The vascularisation was seen at the implanation site. The uterus was empty and slightly enlarged. Poush of Douglas was empty. The cervical canal was closed. The present authors have suggested ultrasound-guided suction curettage. The patient gave her consent to the suggested method to terminate the pregnancy. The post-procedure ultrasound confirmed no complications, such as uterine and abdominal bleeding, or retained products. The fertility was preserved.

Conclusion

There is a higher rate of cesarean sections worldwide. United with increased artificial fertilisation and other instrumental treatments in the uterine cavity contribute to a higher incidence of ectopic pregnancies. (19). Implantation of the conceptus placed in the cesarean section scar is a very rare form of ectopic pregnancies. Early diagnosis is crucial, combined with an adequate method of management, because of the complications that can jeopardize a patient's life, including massive bleeding and ruptured uterine wall. The early termination of pregnancy is suggested once it is diagnosed.

Our case showed that treatment of early cesarean scar ectopic pregnancy can be successfully performed by using ultrasound-guided suction curetage, which can provide complete and fast evacuation of the conceptus (20) and low risk for uterine and abdominal bleeding, transfusion of blood products with preservation of women's fertility.

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EKTOPIČNA TRUDNOĆA LOKALIZOVANA NA OŽILJKU OD PRETHODNOG CARSKOG REZA: HIRURŠKI TRETMAN

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Ektopična trudnoća lokalizovana na ožiljku od prethodnog carskog reza jedna je od najređih formi ektopičnih trudnoća. Javlja se otprilike u jednoj od dve hiljade trudnoća. Postoji mnogo izazova u njenoj dijagnostici i zbrinjavanju. Ako se ne prepozna, ona može ugroziti život pacijentkinje, dovesti do lošeg ishoda i visokog morbiditeta i mortaliteta majki. U trudnoći lokalizovanoj na ožiljku od prethodnog carskog reza embrion se implantira na ožiljnom tkivu i raste u zidu uterusa, što može izazvati krvarenje koje ugrožava život; ono pak može dovesti do histerektomije i potencijalno pogubnih posledica.

U ovom radu prikazan je slučaj ektopične trudnoće lokalizovane na ožiljku od prethodnog carskog reza kod tridesetpetogodišnje pacijentkinje. Prekid trudnoće uspešno je izvršen sukcionom kiretažom vođenom ultrazvukom.

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***Ključne reči**: ektopična trudnoća, ožiljak od carskog reza, sukciona kiretaža*