

Cesarean Scar Ectopic: A Challenge in Management

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Abstract: Cesarean scar ectopic describes implantation within the myometrium of a prior caesarean delivery scar. Its incidence approximates 1 in 2000 normal pregnancies and has increased along with the caesarean delivery rates. Management includes hysterectomy in those desiring sterilization and fertility preserving options include systemic or locally injected methotrexate. We are reporting a case of G2P1L1 with previous LSCS delivery with diagnosis of Cesarean scar ectopic. The diagnosis was made with Ultrasonography and serial Beta hCG titers and was managed successfully with Methotrexate.

Keywords: caesarean scar ectopic, methotrexate.

1. Introduction

Ectopic pregnancy is a pregnancy that occurs outside of the uterine cavity. The most common location location of ectopic pregnancy is fallopian tube, specifically at ampulla because of its wide diameter [1]. Cesarean scar ectopic is one of the rarest of all pregnancies. The rate of ceasearn scar has been increasing due to increasing rate of caesarean surgery. Ectopic pregnancy is the leading cause of maternal death in early pregnancy. A growing ectopic pregnancy in any location can cause the tissue to become vascular, friable and eventually rupture resulting in internal bleeding. This situation can be life threatening and need to be treated as medical emergency.

2. Case Presentation

We report a case of G2P1L1, 26-year-old healthy Asian female who had previous LSCS, who spontaneously conceived and her pregnancy was confirmed by UPT done at home and booked at cherish hospital for further antenatal checkup. On her first visit she had spotting P/V for 2 days with no complaints of abdominal pain. Hence serum beta -hCG done which was 3972.04 mIU/ml (D1) and EDS was done which revealed Single live pregnancy seen in lower uterine segment, positioned eccentrically with sac size measuring 7.5 x 5.6 x 7.6 mm showing a yolk sac without fetal pole. She was advised to repeat serum beta hCG and EDS. On day 2 her serum beta hCG was 4099.09 mIU/ml and EDS done revealed gestational sac measuring 10x5x7 mm in size seen in lower caesarean scar with regular sac margins. Hence advised admission for management.

A. Menstrual History

She had regular periods with 30-32 interval for 5 days duration. LMP was on 06/02/2022.

B. Obstetric History

G2P1L1

G1-Delivered a live male baby via LSCS (Ind: Failure to descend with occipito posterior position)

3. Management

In view of incomplete family size, small sac and low level of serum beta hCG, medical management using methotrexate was planned. She was admitted and preliminary investigations were done to rule out anemia, liver and renal disease. She was treated with single dose regimen of methotrexate. Her baseline serum beta hCG was 4099.09 mIU/ml. After 1st dose of methotrexate 75 mcg IM, her Day 3 serum Beta hCG has increased to 10705.92 mIU/ml but she remained asymptomatic. There were no signs and symptoms of abdominal pain and tenderness, guarding, rigidity or spotting per vaginum. Hence second dose of methotrexate was given on day 4 of initiating treatment. Expert ultrasonography was done and it revealed 1.4 x 0.6 x 1.3 cm sized gestational sac in the lower end of uterine cavity near the scar site. She was on close monitoring and a standby team for Emergency surgical management was prepared. From day 4 to day 7, she didn't have any symptoms like abdominal pain, nausea, vomiting or bleeding per vaginum. Her day 7 beta hCG was 15489.24 mIU/ml. Repeat ultrasonography was done and it revealed scar ectopic gestation with non-viable fetal pole showing no interval growth in size. Even though her beta hCG levels were raising, her USG findings revealed to have a decrease in Sac size and hence she was kept under observation. Serial serum beta hCG and USG were done. Her beta hCG levels on day 8 and 10 post MTX therapy were 14822.30 mIU/ml and 12835.09mIU/ml respectively. Her beta hCG levels started to decrease from day 8 of MTX therapy but with persistent vascularity around the sac in USG. On 25th day, post MTX therapy, her beta hCG level was 678.42 mIU/ml and on 60th day it was 6.34 mIU/ ml. on 70th day post MTX therapy, her USG revealed cystic space with no vascularity.

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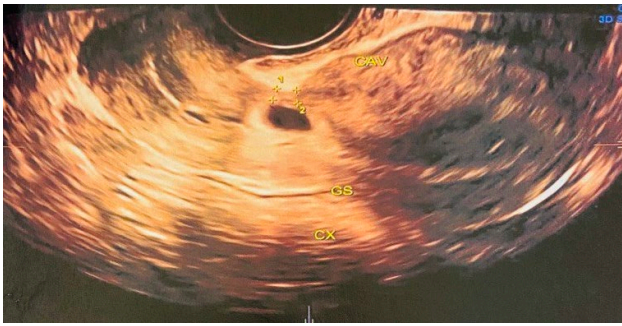


Fig. 1. Gestational sac with yolk sac and fetal pole seen in the lower end of uterine cavity near the scar site. Was done on day 1 of MTX therapy



Fig. 2. Vascularity seen on day 1 of MTX therapy

4. Discussion

The term Ectopic is derived from the Greek word “Ek and topos” meaning “out of place or displaced”. Ectopic pregnancy is defined as the implantation of fertilized ovum or blastocyst anywhere other than in a normal uterine cavity. This includes tubal pregnancies and non-tubal pregnancies involving the ovary, cornual region of the uterus, rudimentary uterine horn, the abdominal cavity, and in the cervix. This abnormally implanted gestation grows and draws its blood supply from the site of abnormal implantation. As the gestation enlarges, it creates the potential for organ rupture because, only the uterine cavity is designed to expand and accommodate fetal development. Hence, ectopic pregnancy can lead to massive hemorrhage, infertility and death. A classic presentation is characterized by the triad of delayed menstruation, pain and vaginal bleeding or spotting. Cesarean scar ectopic pregnancy is relatively a newer type of ectopic pregnancy diagnosed recently. In this the gestational sac is seen embedded and surrounded by myometrium and fibrosis of the cesarean scar.

Risk factors of Ectopic pregnancy include:

1. Previous PID

2. Previous Ectopic pregnancy
3. IVF
4. IUCD and POP users
5. Previous tubal pregnancy

Initial investigations include Urine pregnancy test, serum beta hCG levels, Ultrasound, MRI, Laparoscopy. In Ancient days culdocentesis was performed to diagnose ectopic, but due to evolution of ultrasonography and Immunoassay, it became obsolete [2].

Human chorionic gonadotropin is a glycoprotein produced by syncytiotrophoblast. The serum beta hCG radioimmunoassay is the gold standard for evaluating trophoblast activity. In ectopic pregnancy the serum beta hCG will be lower than the viable intrauterine pregnancy. For patients with ectopic pregnancies, higher serum beta hCG levels indicate higher trophoblastic activity and correlates with the size of the sac. The beta hCG levels is more predictive of ectopic pregnancy when there is no doubling seen after 48 hours. Beta hCG concentration of more than 1500mIU/mL with an empty uterine cavity was 100 percent accurate in excluding a live uterine pregnancy, hence the discriminatory value of beta hCG remains >1500mIU/mL in most of the institution.

In a woman in whom ectopic pregnancy is suspected, Transvaginal ultrasound is performed to look for the location of the ectopic. The absence of gestation sac inside the intrauterine cavity at 6 weeks gestation raises a suspicion of an Ectopic pregnancy [3]. A Tri laminar endometrial pattern can be seen in ectopic pregnancy. The best results in confirming the intrauterine pregnancy are achieved using the following criteria:

1. Normal size, shape and location of gestational sac in the uterine cavity,
2. Double ring surrounding the gestational sac,
3. Evidence of Embryonic parts,
4. Evidence of Heart beat.

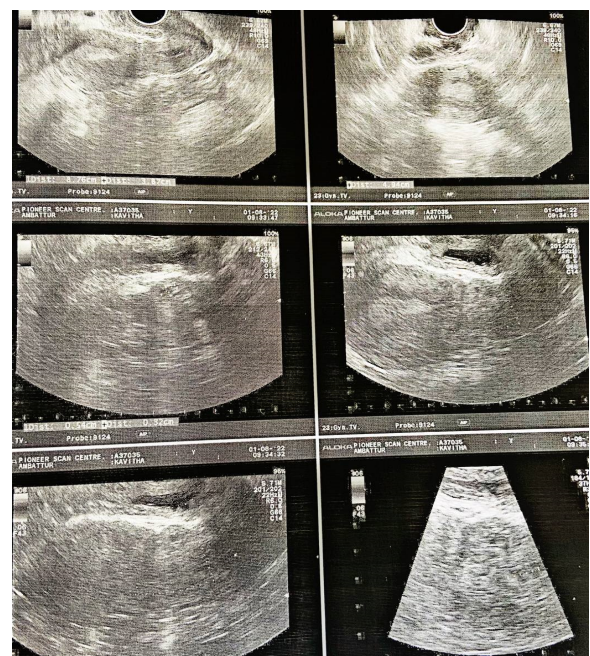


Fig. 3. No vascularity seen on day 70 of MTX therapy

Other ultrasonic features are 'blob sign' and 'bagel sign'. A blood clot with trophoblastic tissue is known as Blob sign and an empty gestational sac in fallopian tube is called bagel sign.

Doppler ultrasound can add the information regarding the vascularity by a sign called Fireball appearance [4].

In this case, 70th day post Methotrexate therapy USG done showed no vascularity [fig.3] and hence Doppler remains an important tool in diagnosing Ectopic pregnancy and follow-up during medical management.

Diagnostic signs include: Absence of a intrauterine gestational sac surrounded with double ring, absence of yolk sac/ or fetal structure inside the gestational sac and presence of extra ovarian adnexal structure. TVS was found to have 96% sensitivity rate. In patients with ruptured ectopic free intra peritoneal fluid is seen in 40-83% [5].

5. Treatment

Because of the unfavorable environment, early interruption of pregnancy is inevitable within 6-8weeks. Earliest interruption occurs in Isthmal pregnancy whereas the pregnancy may continue upto 4 months in interstitial implantation. There are various types of management of Unruptured Ectopic pregnancy

1. Expectant management in which spontaneous resolution is expected. This can be done when there is serum beta hCG <1000mIU/mL and gestational sac size < 2.5cms and no fetal heart beat on TVS.
2. Medical management: The most commonly use drug is Methotrexate. There is a single dose and double dose regimen. In Single dose Methotrexate 50mg/m² will be given on Day 0 after ruling out liver disease and

anemia. Baseline beta hCG will be noted, monitoring is done by measuring serum beta hCG in Day4 and Day 7. When the decline and beta hCG in Day4 and Day 7 is greater than or equal to 15%, Patient is followed up weekly with serum beta hCG until hCG is, 10mIU/mL. If the decline is less than 15% a second dose of Methotrexate 50mg/m² is given on Day 4 and Day 7. Multi dose regimen can also be followed in which Methotrexate is given 1mg/kg IM on Day 1, 3, 5 and 7 and Leucovorin 0.1mg/kg Im on Day 2, 4, 6 and 8 as rescue therapy and serum beta hCG is monitored weekly until is less than 5mIU/mL [6].

3. Patients who fail medical management or who present with acute abdomen will be managed surgically by Linear salpingostomy, Linear salpingotomy, salpingectomy or segmental resection of fallopian tube [7].

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