

Original Article

Caesarean scar ectopic pregnancy

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Abstract

Incidence of caesarean scar pregnancy (CSP) is increasing because of a rising number of caesarean sections. Prompt diagnosis of the condition is required to reduce associated morbidity .

As the implantation of the fertilized egg outside the uterine cavity Fairly uncommon presentation. Where the concepts is implanted deep in the myometrium. Complication such as uterine rupture and massive hemorrhage and hysterectomy. The early diagnosis and management option in cld ultrasound scan for diagnostic and management option include medical , surgical and interventional radiology.

Key Words Pregnancy , ectopic cesarean section , magnetic resonance imaging , ultra son graph

Introduction:

A cesarean scar ectopic pregnancy is fairly uncommon presentation where the concepts is implanted deep in the myometrium at the exact scarsite of the previous cesarean section.

Complication such as uterine rupture and massive hemorrhage, may be life threatening and impact negatively on future fertility.

The implantation of a pregnancy within the previous cesarean scar is the rarest form of ectopic pregnancy .

The prevalence rate was reported to be 1 per 1800 pregnancies.(1)

2 - The mechanism of the condition remainsuncertain, It may occur due to defects in the scar in the form of microtubular tracts which develop due to poor healing of the previous trauma caused by caesarean section, dilation and curettage, hysterotomy, myomectomyor abnormal placentation. (2)

Scar ectopic pregnancy is different from that of an intrauterine pregnancy with placenta accrete implanted on the scar site . In ectopic pregnancy, gestational sac is completely surrounded by myometrium and fibrotic tissue of the scar and is separated from endometrial cavity.

Two different types of scar ectopic pregnancy

1- Caused by implantation in the prior scar with progression toward the cervicoisthmic space or the uterine cavity

2- caused by deep implantation into scar defect with infiltrating growth into the uterine myometrium and to uterine serosal surface which may result in to uterine and massive hemorrhage in first trimester of pregnancy which is most dangerous .(3)

The symptom of scar ectopic pregnancy is painless vaginal bleeding and mild to intense pain in abdomen. (4)

Many times, it does not have any specific symptom and can be misdiagnosed. This can lead to life threatening hemorrhage during pregnancy or curettage, uterine rupture, coagulation problems or may be undiagnosed and present with heavy

3- bleeding and shock after termination of early pregnancy or missed abortion.

Sometimes It is difficult to differentiate scar ectopic pregnancy from anterior cervical ectopic pregnancy,inevitable abortion, or a cervicoisthmic pregnancy .(5)

The diagnosis depends on symptoms and clinical manifestation , history of previous c.s scar, B-HCG level and the imaging techniques.These includes Transvaginal gray-scale US, colourDopper us and MRI.

The diagnosis of scar ectopic pregnancy is relatively easy in early pregnancy. It is recommended that magnetic resonance imaging (MRI) can be performed when diagnosis by transvaginal color Doppler US is difficult.(6)

There are various management options for c.s scar pregnancy that range from medical treatment to surgical interventions such as suction curettage ,laparoscopic excision and repair, resection and repair via laparotomy ,and hysterectomy .

Aim: To study visibility, efficacy and outcome of tranvag-ultrasound aspiration of the ectopic sac together with local methotrexate inj. for treatment of caesarean scar ectopic pregnancy.

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4- Materials and methods:

The study was carried out in the Obstetrics and Gynology department ,Tanta University Hospital and private Infertility

Treatment, endoscopy, and ART centers ,Egypt .During the period from Aug,2017 to Aug 2019.

-10cases of early c.s scar ectopic pregnancy were seleted for the study .

-The gestational age was ≤ 8 week

The diagnosis of the cases was based on B-HCG level,Transvagianl gray scale US ,Colouer Doppler US, and MRI in case of need .

All women gave written informed consent. All procdures performed in the study were in accordance with the ethical roles.

Discussion

In 1978, *Larsen and Solomon*(7) reported the first case of cesarean scar pregnancy. **Shah Sapana R etal**(2)reperterd the

With the aid oftransvaginal ultrasound the pregnancy sac

was aspirated witha needle ∓ 16 g,then a single dose of

50mg MTX was locally injected in the sac.

The patients , were followed up using US, serum level of

the β subunit of human chorionic gonadotrophic ,and

occcrance of any complication

5- Results:

In all patients the disappearenc of the ectopic sac requied

aperiod ranged between3 weeksto 2months

In all patients there was gradual drop in B-HCG leval to

the normal during aperiod ranged between3 to 5 weeks

after treatment.

The were no complication.

incidence of s.c scar pregnancy to be 1:2951 which coincides with **Jurkovicetal**(2003) (8)series in which the prevalence is 1:1800 pregnancies.The

exact etiology of cesarean scar pregnancy is unknown. There are several hypotheses. Proposed by different authors. *Vial et al (9)* found two different type of cesarean scar pregnancy. **First type** is an impantation of conceptus on prior cesarean scar and it grows towards the cervicoisthmic space or the uterine cavity. This type of cesarean scar pregnancy may grow up to term but with the risk of torrential and life threatening hemorrhages. **Second type** of cesarean scar pregnancy is a deep implantation into a cesarean scar defect, and it grows towards the urinary bladder and abdominal cavity. Such cesarean scar pregnancy is more prone to rupture.

6 - This hypothesis argues that the conceptus enters the myometrium through a microscopic dehiscence tract or defect in the cesarean section scar. *Seow et al (10)* reported the first case of cesarean scar pregnancy following in vitro fertilization embryo transfer in 2000. This study also recommended that, the embryo should be transferred at least 4 cm from the cervix to avoid the caesarean scar and cervical pregnancy in patients with a history of a cesarean section. Transvaginal ultrasonography with color Doppler is very useful for diagnosis of cesarean scar pregnancies. It must be

distinguished from other types of abnormally implanted pregnancies, including cervical, cervicoisthmic, and cervicoisthmic corporeal pregnancies, as outcome and treatment may differ in each. Cesarean scar pregnancy is different from intrauterine pregnancy with morbidly adherent placenta in that it occurs in the first trimester, involves the complete embedding of the gestational sac in the myometrium and it is more aggressive.

The uterine myometrium between the urinary bladder and the gestational sac becomes very thin or disappears due to enlargement of the sac. The thin serosal layer is present. *Robert et. Al (11)* mentioned salmon red appearance of cesarean scar pregnancy under a laparoscope. With advent of transvaginal

solography with color Doppler and MRI, it has been possible to diagnose it earlier in the gestation, and to adopt more conservative approach, as treatment.

7- Few reports, of cesarean scar pregnancies successfully treated conservatively with MTX and expectant management are

available. Several protocols were described including systemic single-dose MTX, multiple-dose MTX with alternate day folic acid rescue or local MTX injection into the sac, MTX resulted in resolution of cesarean scar pregnancy without surgical intervention. *Godin et al (12)* reported a case of transvaginal injection of potassium chloride into the fetal heart and MTX to the gestational sac and surrounding myometrium in a 9 week viable cesarean scar pregnancy. The ectopic mass resolved completely, but hysterosalpingography showed dehiscence of the uterine scar 16 weeks later. In some cases, hemorrhage occurred after MTX treatment, requiring emergency laparotomy.

Lai et al (13) reported a case in which, two weeks after transvaginal sonography guided local injection of MTX into the gestational sac embedded into the scar, an emergency laparotomy was required due to onset of profuse vaginal bleeding from the ruptured uterine scar. *Haimov-kochman R et al (14)* recommended that

MTX injection and expectant management may be a safe treatment alternative in cesarean scar pregnancy less than 6-8 week's gestation without fetal heart activity.

Some authors propose that D & C should not be first line therapy due to the risks of perforation and catastrophic hemorrhage. The study of **Shah Sapana et al (2)** reported profuse vaginal bleeding in 3 cases of C,S scar ectopic pregnancy treated with D & C due to misdiagnosis as missed abortion and one of the required hysterectomy.

Lee et al (15) described laparoscopic resection of a cesarean section ectopic pregnancy. **Graesslin et al (16)** described successful management of cesarean section ectopic pregnancy with the use of

systemic methotrexate followed by D & C. Uterine artery embolization to reduce hemorrhage has also been described as adjunctive therapy.

Treatment options like systemic and local MTX, and local potassium chloride, though successful in treatment of C.S scar pregnancy, but the C.S scar defect is left with the risk of repeat S,C scar pregnancy and the risk of uterine rupture in future pregnancy. These minimally invasive treatment option may be more suitable for the cases desiring no more future pregnancy. Surgical resection, offers the opportunity to remove the ectopic pregnancy, as well as repairs the defect simultaneously and should be recommended as soon as the diagnosis is confirmed.

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