



SUCCESSFUL MANAGEMENT OF A CASE OF CAESAREAN SCAR ECTOPIC PREGNANCY

Gynaecology

Dr. Ambigai Meena

Head Of Department, Obstetrics And Gynecology, Preethi Institute Of Medical Sciences, Madurai

Dr. Hema T*

Chief Consultant, Department Of Obstetrics And Gynecology, Preethi Institute Of Medical Sciences, Madurai, *Corresponding Author

ABSTRACT

Caesarean Scar Ectopic Pregnancy (CSEP) is the rarest form of ectopic pregnancy, the incidence of which is raising due to increasing rates of caesarean section. It is defined as when a blastocyst implants on a previous Caesarean scar. Early diagnosis leads to prompt management and improves the outcome by allowing preservation of future fertility. We report a Case Of 28 Yrs Old Gravida 3, Para 1, Live 1, Abortion 1 post caesarean pregnancy came with 6 weeks Amenorrhoea. She complaints of bleeding per vaginum with mild lower abdominal pain. Scar pregnancy was suspected by ultrasound and confirmed by MRI Abdomen and Pelvis. Her β HCG level was 8432 IU/L. Laparotomy was done and the scar ectopic mass was excised and scar edges were closed. Postoperatively patient was followed up till β HCG levels were reduced.

KEYWORDS

Caesarean Section, Scar Ectopic, β Hcg

INTRODUCTION

Caesarean scar pregnancy (CSP) remains a rare condition despite its increased incidence over the last two decades, which has been attributed to increased caesarean section rates and frequent use of transvaginal ultrasound in the first trimester [1]. The incidence of CS ectopic pregnancy varies from 1:1800 to 2216 pregnancies with rate of 0.15 % in women with previous caesarean section and 6.1 % of all ectopic pregnancies [2]. Late diagnosis of CSP can be associated with devastating sequelae such as uterine rupture, haemorrhage, need for hysterectomy, and maternal death. The outcome is thus dependent on the timing of diagnosis and type of intervention. There are various modalities of treatment like open or laparoscopic excision, systemic methotrexate, hysteroscopic excision, uterine artery embolization and so on. In our case, we have done laparotomy and excision of the sac.

CASE DETAILS

A 25-year-old female presented to Outpatient Department of Gynaecology with chief complaint of two month amenorrhea with bleeding per vaginum on and off for past 5 days. In obstetric history, she was G3P1L1A1 with previous one Caesarean delivery. In her first pregnancy which was 2 years ago, Caesarean section was done due to fetal distress. Six months ago, she had an induced abortion done at 6 weeks amenorrhoea, for which dilatation and curettage was done. General physical examination was normal. On per speculum, cervix was normal, bleeding per vaginum was seen. On bimanual examination, cervix pointed upward, uterus was bulky, retroverted and bilateral fornices were free with no tenderness. On investigation, routine blood and urine investigations were normal. On admission β HCG level was 8432 IU/L. Trans vaginal ultrasound revealed empty uterine cavity with clearly defined endometrium, irregular small gestational sac like structure of six week seen in lower uterine segment anteriorly with cardiac activity. Cervical canal empty and adenexa normal [Fig-1]. On Doppler examination, hyperechoic rim of choriodecidual reaction with excessive vascularity suggestive of caesarean scar ectopic pregnancy. These findings were confirmed on MRI-pelvis, which showed post LSCS changes with scar pregnancy with a irregular gestational sac of size 2 X 1.8 cm with fetal pole in situ measuring 1 X 0.6 cm [fig 2]. Patient was planned for laparotomy as she had excessive bleeding per vaginum and β HCG levels were high. Intraoperative findings; soft and vascular mass seen at the site of previous scar [Fig-3]. Incision was given over bulge and products of conception were gently removed. It was communicating with uterine cavity, edges of scar tissue were excised and freshened, suturing was done. Tissue was sent for histopathological examination and diagnosis of Caesarean scar ectopic pregnancy was confirmed. Patient was followed up with serum Beta human Chorionic Gonadotropin (β -hCG) level, till β -HCG came to non-pregnant level.



Fig 1. TVS picture

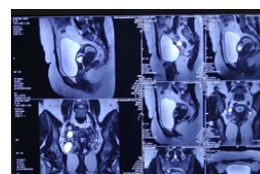


Fig 2. MRI pelvis



Fig 3: Intra-operative picture

DISCUSSION

Scar ectopic pregnancy is becoming increasingly common all over the globe. It is a novel and life-threatening form of abnormal implantation of embryo within the myometrium and the fibrous tissue of the previous scar following caesarean section; hysterotomy; dilatation and curettage; abnormal placentation; surgery on uterus like myomectomy, metroplasty, hysteroscopy and manual removal of placenta. Women with CSP may present with slight vaginal bleeding and/or abdominal discomfort [3].

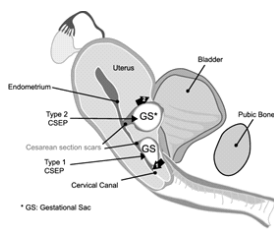
The incidence of CS ectopic pregnancy varies from 1:1800 to 2216 pregnancies with rate of 0.15 % in women with previous caesarean section and 6.1 % of all ectopic pregnancies. Similarly, systemic review found that scar ectopic pregnancy occurred in 52 % of cases following prior one caesarean section, 36 % in prior two caesarean section and 12 % after three or more prior caesarean section [4]. The time interval between the last caesarean section and CS ectopic pregnancy was 6 months to 12 years.

PATHOPHYSIOLOGY

Mechanism of this condition remains uncertain. It is possible that scar implantation occurs due to defects in the scar in the form of microtubular tract which develops due to poor healing of the previous trauma caused by caesarean section, dilatation and curettage, hysterotomy, myomectomy, abnormal placentation and manual removal of placenta.

Two different types of scar ectopic pregnancies are identified. Type I is caused by implantation in the prior scar with progression towards the cervico isthmus (in prior caesarean section) space or the uterine cavity. Type II is caused by deep implantation into scar defect with infiltrating growth into the uterine myometrium and to uterine serosal surface which may result into uterine rupture and massive haemorrhage in first

trimester of pregnancy which is most dangerous.



RECURRENCE

The risk of recurrence has been reported as 3.2–5.0% in women with one previous CSP treated by dilatation and curettage with or without uterine artery embolisation[5].

FACTORS ASSOCIATED WITH INCREASED RISK OF RECURRENCE INCLUDE

1. A uterine segment thickness measuring less than 5 mm,
2. Gestational sac bulging into the utero-vesical fold,
3. Caesarean delivery in a rural community hospital, and
4. History of irregular vaginal bleeding and abdominal pain during previous CSP

DIAGNOSIS

ULTRASOUND CRITERIA FOR DIAGNOSIS OF CAESAREAN SCAR PREGNANCY (CSP) [6]

- Empty uterine cavity and closed and empty cervical canal
- Placenta and/or a gestational sac embedded in the scar of a previous caesarean section
- A triangular/round or oval-shaped gestational sac that fills the niche of the scar
- A thin or absent myometrial layer between the gestational sac and the bladder
- Yolk sac, embryo and cardiac activity may or may not be present
- Evidence of functional trophoblastic/placental circulation on colour flow Doppler examination, characterised by high velocity and low impedance blood flow
- Negative 'sliding organs' sign - Gentle pressure at the level of the internal cervical os may displace the gestational sac, thus demonstrating what is known as 'the sliding sign'.

MANAGEMENT

There is no single hard and fast rules for the management of scar ectopic pregnancy.

Multiple modalities have been tried depending on the patient condition.

Expectant management	Used rarely in some cases
Medical management	Systemic methotrexate
Local injection / embolisation	• Local injection of methotrexate with sac aspiration • Local injection of other embryocides • Uterine artery chemoembolisation
Surgical management	• Dilatation & surgical evacuation • Hysteroscopic resection • Vaginal excision and resuturing • Laproscopic resection and resuturing • Open excision and resuturing • Combined laproscopic and hysteroscopic procedures • Combined laproscopic and vaginal surgery • Hysterectomy
Combined management	• Uterine artery chemoembolisation followed by dilatation and evacuation surgery • Methotrexate followed by surgical evacuation or resection after an interval

The main purpose of management is to minimise bleeding and conserve the uterus for further conception.

Systemic methotrexate was successful in the case of

- Gestational age less than 8 wks

- Absent foetal cardiac activity
- β HCG levels were less than 5000 mIU/ml [7]

LAPROTOMY AND EXCISION is the best treatment option due to complete removal of scar pregnancy with repair of scar and quick return of serum β HCG level to normal in 1–2 weeks. Excision and repair of old scar result in removal of microtubular tracts and thus reduce the risk of recurrence. In scar ectopic pregnancy, gestational sac is not in the uterine cavity and chorionic villi implants on scar. Hence, trophoblastic tissue is unreachable to curette. Repeated attempt can cause uterine perforation leading to severe haemorrhage. If there is profuse bleeding during curettage and absent of product of conception, must proceed immediately for laparoscopy/laparotomy. It is preferred in cases of exogenous CSP with a thin overlying myometrium. Surgical resection can be performed by laparotomy or laparoscopy, either as a primary procedure or as an interval after termination of pregnancy with methotrexate [8].

COMBINED AND SEQUENTIAL MANAGEMENT

Combined management is where more than one modality of treatment is used together or within a short interval. UAE (Uterine Artery Embolisation) and chemoembolisation are the most commonly combined surgical management procedures. UAE significantly reduces the risk of acute bleeding during suction evacuation while methotrexate helps with reabsorption of any residual chorionic tissue. This combined approach reduces the risk of bleeding, hysterectomy and major surgery and allows quicker recovery and discharge. Surgical evacuation is usually performed 24–48 hours after chemoembolisation. This approach may also be a good option for women presenting with moderate to heavy bleeding because the priority would be to stop the bleeding first [9].

CHOOSING TREATMENT OPTION

Treatment options should be individualised taking patient specific factors into consideration.

- Expectant management is generally not recommended except in very rare situations.
- Medical management should be considered for hemodynamically stable women with minimal or no symptoms.
- Methotrexate is the drug of choice for medical management and works best in pregnancies of less than 8 weeks of gestation and where hCG is less than 5000 IU/L.
- Intraleisional injection of methotrexate (with sac aspiration) has a higher success rate and should be considered as an option for stable women.
- Surgical treatment should be considered for women with significant symptoms or for those who decline medical treatment.
- For women with endogenous CSP, surgical evacuation or hysteroscopic resection carries less risk of perforation, whereas surgical resection with resuturing should be considered for women with exogenous CSP with thin myometrium.

FUTURE PREGNANCIES

There are many reports of successful pregnancies after conservative medical and surgical management of CSP. In future pregnancies, early ultrasound should be used to rule out recurrence. These pregnancies also carry an increased risk of morbidly adherent placenta, therefore any suspicion should instigate further measures for correct diagnosis and management of morbidly adherent placenta [10].

CONCLUSION

Diagnosis and management of CSP needs considerable expertise and a multidisciplinary approach to prevent complications. Increasing CS rates imply that clinicians will encounter CSP from time to time. Prompt and accurate diagnosis of CSP and individualised treatment and follow up are required to reduce overall morbidity.

REFERENCES

1. M. A. Rotas, S. Haberman, and M. Levgr, "Caesarean scar ectopic pregnancies: etiology, diagnosis, and management," *Obstetrics & Gynecology*, vol. 107, no. 6, pp. 1373–1381, 2006.
2. Jurkovic D, Hillaby K, Woelfer B, et al. First-trimester diagnosis and management of pregnancies implanted into the lower uterine Caesarean section scar. *Ultrasound Obstet Gynecol*. 2003;21:220–7.
3. Zhang Y, Gu Y, Wang JM, Li Y. Analysis of cases with caesarean scar pregnancy. *J Obstet Gynaecol Res* 2013;39:195–202.
4. Rotas MA, Haberman S, Levgr M. Cesarean scar ectopic pregnancies: etiology, diagnosis and management. *Obstet Gynecol*. 2006;107:1373–7.
5. Qian ZD, Guo QY, Huang LL. Identifying risk factors for recurrent caesarean scar pregnancy: a case-control study. *Fertil Steril* 2014;102:129–134.e1.
6. McKenna DA, Poder L, Goldman M, Goldstein RB. Role of sonography in

- therecognition, assessment, and treatment of caesarean scar ectopic pregnancies. J Ultrasound Med 2008;27:779–83.
7. Deb S, Clewes J, Hewer C, Raine-Fenning N. The management of caesarean scar ectopic pregnancy following treatment with methotrexate – a clinical challenge. Ultrasound Obstet Gynecol 2007;30:889–92.
 8. Wang HY, Zhang J, Li YN, Wei W, Zhang DW, Lu YQ, Zhang HF et al. Laparoscopic management or laparoscopy combined with transvaginal management of type II caesarean scar pregnancy. JSLS 2013;17:263–72.
 9. Liang F, He J. Methotrexate-based bilateral uterine arterial chemoembolization for treatment of caesarean scar pregnancy. Acta Obstet Gynecol Scand 2010;89:1592–4.
 10. Ben Nagi J, Helmy S, Ofili-Yebovi D, Yazbek J, Sawyer E, Jurkovic D. Reproductive outcomes of women with a previous history of Caesarean scar ectopic pregnancies. Hum Reprod 2007;22:2012–5.