

Successful Conservative Management of an Unruptured Cesarean Scar Ectopic Pregnancy

Arun Nayak¹ · Meenal Sarmalkar¹ · Madhuri Mehendale¹ · Neha Singh¹ · Pratibha Dixit¹ · Shamlee Mistry¹

Received: 20 February 2016 / Accepted: 12 April 2016 / Published online: 3 June 2016
© Federation of Obstetric & Gynecological Societies of India 2016

About the Author



Dr. Arun Nayak is a Professor and Unit Chief at L.T.M. Medical College, Mumbai, and attached to L.T.M.G. Hospital as a senior Consultant Gynecologist, Obstetrician and Laparoscopic Surgeon. He is current President of Mumbai Obstetrics & Gynaecology Society. His main area of interest is urinary incontinence surgeries for which he has received special training during his Overseas Fellowship at Chungnam University, Korea and has performed more than 250 surgeries including the TVT and TVT (O) procedures. He has been awarded with several prestigious prizes, fellowships, awards and medals at the State, National and International levels including FOGSI Corion Award, MOGS Young Scientist Award and Hargobind Medical Foundation Overseas Travelling Fellowship.

Dr. Arun Nayak, MBBS, MD Obstetrics & Gynaecology, DGO, FICOG is Professor & Head of Unit in Department of Obstetrics & Gynecology at Lokmanya Tilak Municipal General Hospital, Mumbai, India; Dr. Meenal Sarmalkar, MBBS, MD Obstetrics & Gynaecology, DGO is Additional Associate Professor in Department of Obstetrics & Gynecology, Lokmanya Tilak Municipal General Hospital, Sion, Mumbai, Maharashtra, India; Dr. Madhuri Mehendale, MBBS, DGO, DNB Obstetrics & Gynaecology, FCPS is Assistant Professor in Department of Obstetrics & Gynecology, Lokmanya Tilak Municipal General Hospital, Sion, Mumbai, Maharashtra, India; Dr. Neha Singh, MBBS, MD Obstetrics & Gynaecology is Senior Resident in Department of Obstetrics & Gynecology, Lokmanya Tilak Municipal General Hospital, Sion, Mumbai, Maharashtra, India; Dr. Pratibha Dixit, MBBS, Post Graduate student MD is Obstetrics & Gynaecology in Department of Obstetrics & Gynecology, Lokmanya Tilak Municipal General Hospital, Sion, Mumbai, Maharashtra, India; Dr. Shamlee Mistry, MBBS, MD is Obstetrics & Gynaecology, Ex-Registrar in Department of Obstetrics & Gynecology, Lokmanya Tilak Municipal General Hospital, Sion, Mumbai, Maharashtra, India.

✉ Arun Nayak
drarunhnayak@hotmail.com

¹ Department of Obstetrics and Gynecology, Lokmanya Tilak Municipal General Hospital, Sion, Mumbai, Maharashtra 400022, India

Introduction

Cesarean scar pregnancy (CSP) is the rarest form of all ectopic gestations with recently reported incidence ranging from 1:1800 to 1:2216 [1]. Any uterine scar from previous cesarean, hysterotomy, myomectomy, vigorous curettage, metroplasty etc. can be nidus for embryo implantation resulting into scar ectopic gestation. This condition has been associated with life-threatening complications like uterine rupture, hemorrhage and DIC with increased operative morbidity and mortality. Clinical presentation may vary from vaginal bleeding with or without pain to signs and symptoms of scar rupture or shock. Role of Transvaginal ultrasonography in making early diagnosis is of utmost importance. Management mainly depends upon patient's clinical presentation, hemodynamic stability and future desire for fertility. Different treatment options are scar site repair after wedge resection or hysterectomy either by laparotomy or laparoscopically, local or systemic methotrexate, curettage, uterine artery chemoembolization [2].

Case Report

A 36-year old G2P1L1 with previous cesarean delivery presented in gynecology OPD with history of 9.2 weeks amenorrhea with chief complaints of painless spotting per vaginum for last 4 days with USG suggestive of cervical ectopic pregnancy. She had one living child delivered by cesarean section in view of fetal distress 4 years back. She did not have any history of intraoperative or post operative or wound complications in her first pregnancy. In her present pregnancy, she conceived spontaneously. On clinical examination, she was found to be hemodynamically stable with no pallor or tachycardia. On per abdomen examination, no guarding, rigidity, and tenderness were noted. On per speculum examination, cervix was tubular with closed external os without any ballooning up of cervix. There was no evidence of any blood-stained discharge or active bleeding through os. On bimanual examination, uterus was bulky, nontender and anteverted with bilateral fornices clear and nontender. Her ultrasound findings were suggestive of single live cervical ectopic pregnancy corresponding to 9.2 weeks gestation with no evidence of intrauterine gestation. Patient was hospitalized and preoperative investigations including complete hemogram, renal and liver function tests were sent. All investigations were within normal limits. Serum beta HCG level was 58,720 IU/ml. In view of discrepancy between USG findings and clinical examination findings, MRI pelvis was done to make correct preoperative diagnosis. MRI pelvis showed thinning of anterior lower uterine myometrium



Fig. 1 MRI image of scar ectopic pregnancy



Fig. 2 MRI image showing gestational sac and fetal pole

with a gestational sac seen in lower uterine segment, suggestive of CSP (Figs. 1, 2).

As patient was hemodynamically stable with desire of future fertility, decision was made for conservative management using combined approach inclusive of systemic methotrexate, bilateral uterine artery embolization and conservative surgery (dilatation and curettage). Patient was given one dose of Inj. Methotrexate 75 mg intramuscularly. On day 4 of administration of methotrexate, Serum beta HCG levels were 28,900 IU/ml which was suggestive of declining trend of beta HCG levels. Bilateral Uterine artery embolization with gel foam (temporary method) was

done on day 4 of methotrexate. Dilatation and Curettage was done after 48 h of UAE. During and after curettage, significant active bleeding was noted. Therefore, intrauterine balloon tamponade with Foley's catheter no.

22 inflated with 10 cc NS was done to control hemorrhage. No significant hemorrhage was noted postoperatively. Foley's catheter was removed after 24 h. Patient was further observed for next 48 h for any bleeding per vaginum. Her post operative course was uneventful, and she was discharged on day 7 of curettage with advice to follow up with USG pelvis and serum beta HCG level. Serum beta HCG levels were normalized within 6 weeks postoperatively with normal USG pelvis findings.

Discussion

Being very rare, limited clinical data are available on etiology, diagnosis, and management of CSP. It is thought that such pregnancy results from formation of microtubular tract due to previous uterine surgeries or unhealed scar.

In an attempt to clarify the appropriate diagnostic method and treatment of CSP, Rotas et al. reviewed 59 articles (112 cases). Review of clinical data revealed a considerable increase in incidence of CSP over the last decade, with a current range of 1:1800 to 1:2216 normal pregnancies. Fifty-two percent patients had only one prior cesarean delivery. Mean gestational age at diagnosis was 7.5 ± 2.5 weeks. Most frequent symptom was painless vaginal bleeding. Transvaginal USG was the diagnostic method used in most cases, with a sensitivity of 84.6 %. Expectant management of six patients resulted in uterine rupture that required hysterectomy in three patients. Dilatation and curettage was associated with severe maternal morbidity. Wedge resection and repair of the implantation site via laparotomy or laparoscopy were successful in 11 of 12 patients. Simultaneous administration of systemic and intragestational methotrexate to five women, all with beta hCG exceeding 10,000 mIU/mL, required no further treatment. This study concluded that surgical treatment or combined systemic and intragestational methotrexate were both successful in the management of cesarean delivery scar pregnancy [1].

A recent literature search identified 751 cases of CSP with an interesting fact that 13.6 % (107/751) had been misdiagnosed as cervical pregnancies, spontaneous abortions in progress (on its way to expulsion), or low intrauterine pregnancies. A CSP can be diagnosed by transvaginal ultrasound using the following suggested criteria [2]:

1. Visualization of an empty uterine cavity as well as a closed internal os and empty endocervical canal.
2. Detection of the placenta and/or a gestational sac embedded in the scar.
3. In early gestations (<8 weeks), a triangular gestational sac that fills the niche of the scar; at >8 postmenstrual weeks this shape may become rounded or even oval.
4. A thin (1–3 mm) or absent myometrial layer between the gestational sac and the bladder.
5. The presence of embryonic/fetal pole and/or yolk sac with or without heart activity.
6. The presence of a prominent and at times rich vascular pattern at or in the area of a previous cesarean scar.

In a retrospective analysis by Timor-Tritsch et al., 19 patients with confirmed diagnosis of CSP were treated with local as well as systemic methotrexate. They concluded that combined intramuscular and intragestational methotrexate injection treatment was successful in treatment of CSP [2].

In another retrospective analysis of 31 cases by Yan et al., the feasibility and safety of uterine artery chemoembolization in treating viable CSP was evaluated. Curettage was carried out within 24–48 h after uterine artery chemoembolization with methotrexate and gelatin sponge with 100 % success rate of procedure. They concluded that uterine artery chemoembolization is an effective and safe treatment for CSP, which greatly reduces the necessity of hysterectomy [3].

In a prospective cohort study by Xin et al., the efficacy of combined laparoscopy and hysteroscopy was compared with traditional uterine curettage after UAE in management of CSP. They found that the average intraoperative blood loss was significantly higher in control group. They concluded that combined laparoscopy and hysteroscopy are much safer and more effective than uterine curettage as a supplementary measure following UAE [4].

Conclusion

With the advent of better imaging modalities and various management options obviating need for laparotomy and hysterectomy, early diagnosis of scar ectopic pregnancy and gaining adequate time to decide its proper management strategy have become possible nowadays. Therefore, rate of conservative approach to reduce operative morbidity and mortality has also increased significantly.

With a significant rise in cesarean delivery rate, incidence of cesarean scar ectopic pregnancy is also on the rise. Larger case studies are required to have a complete overview of its diagnosis and management. Due to rarity of this condition, sufficient data are still unavailable. Hence, every case should be reported to obtain more information about treatment options.

Compliance with Ethical Standards

Conflict of interest The authors report no conflict of interests.

References

1. Rota MA, Haberman S, Levгур M. Cesarean scar ectopic pregnancies; etiology, diagnosis, and management. *Obstet Gynecol.* 2006;107:1373–81.
2. Timor-Tritsch IE, Monteagudo A, Santos R, et al. The diagnosis, treatment, and follow-up of cesarean scar pregnancy. *Am J Obstet Gynecol.* 2012;207:44.e1–13.
3. Yan H, Youfei L, Rongkai X, et al. An application of uterine artery chemoembolization in treating cesarean scar pregnancy. *Int J Clin Exp Med.* 2015;8(2):2570–7.
4. Xin W, Xiaohong X, Xuezhe W, et al. Combined laparoscopy and hysteroscopy vs. uterine curettage in the uterine artery embolization-based management of cesarean scar pregnancy: a cohort study. *Int J Clin Exp Med.* 2014;7(9):2793–803.