International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Kavitha Yogini D et al. Int J Reprod Contracept Obstet Gynecol. 2016 Jun;5(6):1686-1689
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: http://dx.doi.org/10.18203/2320-1770.ijrcog20161653

Review Article

Caesarean scar pregnancy with scar dehiscence - successful laparoscopic management and the review of literature

Kavitha Yogini Duraisamy*, Devi Balasubramaniam, Palanivelu Chinnusamy

Department of Endogynaecology, Gem hospital and research centre Private Limited, Coimbatore, India

Received: 05 April 2016
Accepted: 07 May 2016

***Correspondence:**
Dr. Kavitha Yogini Duraisamy,
E-mail: yoginianandvij@rediffmail.com

ABSTRACT

Caesarean scar ectopic pregnancy is a rare but potentially life threatening entity. The diagnosis and treatment of caesarean scar pregnancy is challenging. The true incidence has not been determined as there are only few cases reported in the literature. The optimal management of this condition is individualized based on various factors. Here we report a case of caesarean scar pregnancy with scar dehiscence which was successfully managed laparoscopically. Patient underwent laparoscopy with complete removal of trophoblastic tissue, repair of scar defect following prophylactic bilateral ligation of anterior division of internal iliac artery without need for blood transfusion. Laparoscopy is an effective and minimally invasive approach in dealing with scar pregnancy.

Keywords: Laparoscopy, Caesarean scar pregnancy, Scar dehiscence, Internal iliac artery ligation

INTRODUCTION

Caesarean scar pregnancy is an unusual kind of ectopic pregnancy wherein the pregnancy gets implanted on a caesarean scar.[1,2] The incidence has increased over last two decades because of increased rate of caesarean section, high index of suspicion and better diagnostic tools.[3-5] Early transvaginal sonography is a standard tool to diagnose this condition during first trimester with a reported sensitivity of 86.4%.[1] The natural course of this condition is uncertain, but scar dehiscence and rupture is likely even in the first trimester which can be potentially catastrophic and delayed intervention can lead to increased maternal morbidity and mortality.[6,7] However the management of the condition is not standardized and is individualized based on many factors like gestational age at the time of diagnosis, Serum beta hCG levels, associated scar dehiscence or rupture and haemodynamic status. Various treatment strategies have been proposed including conservative management with methotrexate and uterine artery embolisation or surgical treatment depending upon the clinical situation. Among surgical treatment, laparoscopic approach has been tried in several cases and found superior to any other treatment especially when there is suspected scar dehiscence or rupture.[8-10]

CASE REPORT

Mrs X, 22 year old, P1 L1 A1, previous LSCS, was referred to us as a case of submucosal myoma with history of profuse bleeding per vaginum when dilatation and curettage was attempted for failed medical abortion.

She underwent medical abortion without prior ultrasound at 45 days of amenorrhoea after a positive urine pregnancy test. Following that, she continued to have only mild bleeding per vaginum for 2 weeks. Ultrasound done subsequently showed single live intrauterine fetus of 8-9 weeks of gestation with gestational sac in lower uterine segment with evidence of subchorionic hypoechogenicity. Hence she was taken up for dilatation and curettage. However, procedure was abandoned as she had life threatening haemorrhage with drop of haemoglobin from 11.6 to 4.3 gm/dl and became haemodynamically unstable, for which 3 units of packed cells were transfused. Review scan done 3 days later

showed anterior wall submucosal myoma of 4.5x3 cm and she was referred to us for further management. On examination, she was moderately built and nourished with BMI 20. Her vitals were stable with Pulse rate 86/min, BP-110/80 mmHg, P/A-Soft, P/S-minimal bleeding through os seen, P/V-Uterus anteverted, soft, 10 weeks size. Transvaginal scan showed a heterogeneous mass of 5x4 cm in anterior aspect of lower body of uterus in region of LSCS scar suggestive of scar haematoma with empty uterine cavity and normal endocervical canal. Serum beta hCG level was 6.3 mIU/ml, Hb-10.3 gm/dl. After thorough history taking and proper evaluation, with clinical suspicion of caesarean scar pregnancy with scar dehiscence she was taken up for diagnostic laparoscopy. On laparoscopy, bluish ballooning over right lateral aspect of previous scar? Haematoma with scar dehiscence was seen. Hence proceeded with bilateral ligation of anterior division of internal iliac artery using prolene 1-0, foreseeing the risk of torrential hemorrhage. Bladder was densely adherent to the scar site which was carefully dissected down. Scar dehiscence of 3 cm was noted with products of conception ballooning out through the dehiscence. Under laparoscopic guidance, entire products of conception removed laparoscopically and vaginally with negligible blood loss. Uterine wound closed in 2 layers with vicryl no. 1. Histopathology was consistent with diagnosis (products of conception). Postoperative period was uneventful. Postoperative Hb was 10 gm/dl. Patient was discharged on 2nd postoperative day. Patient was counselled about the increased risk of recurrence and scar rupture in subsequent pregnancy.

Figure 1: USG – heterogeneous mass of 5 × 4 cm on anterior of lower body of uterus in region of LSCS scar.

DISCUSSION

Caesarean scar pregnancy is usually diagnosed during first trimester with an increased risk of haemorrhage and uterine rupture if left untreated.[11,12] Sonographic image of caesarean scar pregnancy can sometimes mimick like myoma or sarcoma but a strong suspicion of caesarean scar pregnancy should be made when an extremely vascularised and exophytic mass located in isthmic region is detected in reproductive age group presenting with irregular vaginal bleeding.[13,14]

Figure 2: USG – uterus traced from fundus up to external os with normal endometrial cavity and endocervical canal.

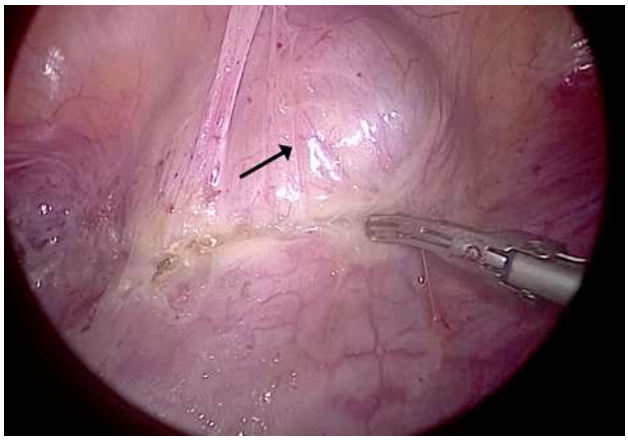

Figure 3: Intra operative view – mass ballooning out on the right lateral aspect of previous LSCS scar.

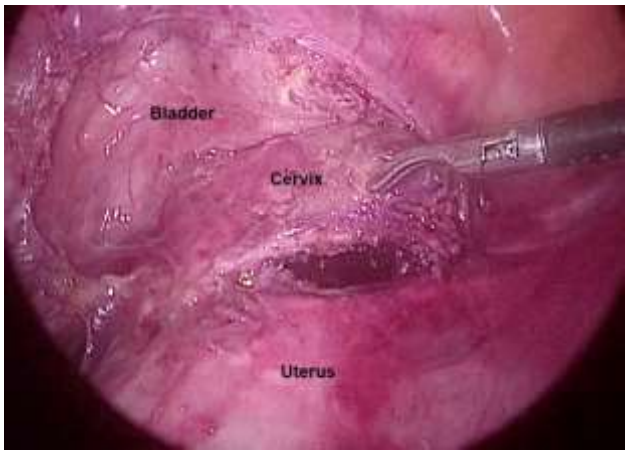

Figure 4: Bladder dissected down followed by complete removal of trophoblastic tissue.

A case series by Zhang B et al describes 11 patients with definite diagnosis of caesarean scar pregnancy who were successfully managed with uterine artery embolization combined with methotrexate before uterine curettage.[15] Conservative management is useful in cases presenting

with intact scar but failure is more likely which can lead to rupture requiring hysterectomy and subsequent loss of fertility.[7,16] Surgical management, either laparoscopy or laparotomy is preferred over medical management due to higher rate of success, faster recovery to negative beta hCG levels and relatively less complication rates. Most reports and observational studies published so far recommend surgical management which includes removal of ectopic pregnancy and repairing the defect.[17-19]

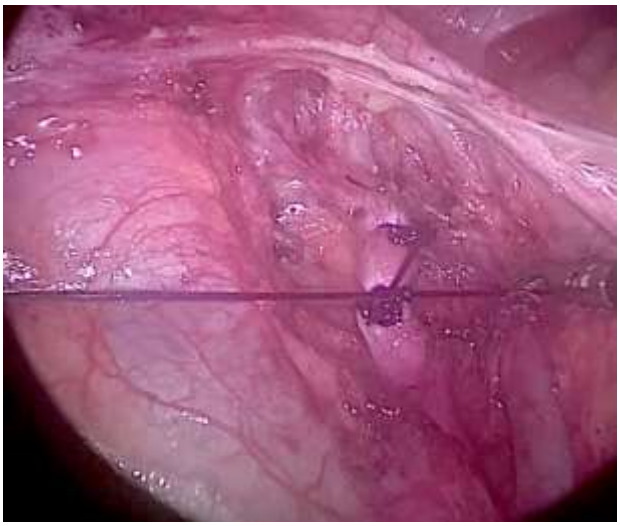

Figure 5: Prophylactic ligation of anterior division of internal iliac artery.

Among the management options, laparoscopic approach seems to be superior and can be considered as an alternative to laparotomy for various reasons (i) minimally invasive approach which hastens recovery (ii) complete removal of ectopic pregnancy (iii) appropriate and effective repair of uterine defect (iv) less intraoperative and postoperative morbidity (v) can be combined with ligation of anterior division of internal iliac artery as a prophylactic measure to avert the risk of torrential hemorrhage.[17-19] A case report by Ambler et al describes the successful management of cesarean scar pregnancy by hysteroscopic suction and evacuation under laparoscopic guidance following failed medical management.[10] Murat et al reviewed the data from previously published articles related to laparoscopic and hysteroscopic repair of caesarean scar pregnancy and concluded that hysteroscopic approach has its own limitations and cannot strengthen the uterine wall. According to him laparoscopic approach which effectively repairs the scar defect to reinforce the myometrial endurance seems to be an appropriate method to deal with caesarean scar pregnancy.[8]

In our case since we had a high suspicion of scar dehiscence in view of scan showing a mass? Hematoma on the anterior aspect of previous scar site, surgical treatment was opted. Patient underwent laparoscopic treatment with complete removal of products of conception vaginally under laparoscopic guidance and effective repair of uterine defect following prophylactic bilateral ligation of anterior division of internal iliac artery, with negligible blood loss. After identification and isolation of internal iliac artery, two ligatures were placed on its anterior division with non-absorbable suture 1-0 prolene. The first ligature was placed 1 cm distal to the origin of posterior division and second ligature 0.5 to 1 cm below the first one. The uterine defect was then closed in 2 layers with 1 vicryl. Burchell was the first person to report on the effect of bilateral ligation of internal iliac artery in controlling pelvic haemorrhage. He proved that there is a drop of pulse pressure by 85% and rate of blood flow by 48% with bilateral ligation of internal iliac artery which converts arterial system into venous system leading to stable clot formation and haemostasis.[20] Waraarachchi et al studied fertility status in cases who has undergone internal iliac artery ligation and concluded that it is a lifesaving surgery in case of massive obstetric haemorrhage with preservation of future fertility.[21] A study by Nandanwar et al analysed gynaecological and obstetric cases where therapeutic and prophylactic ligations of internal iliac artery was done for pelvic haemorrhage and suggested that it is a safe and effective procedure for controlling pelvic haemorrhage without compromising the rest of the pelvic blood supply.[22]

The treatment options for caesarean scar pregnancy should be tailored according to the clinical scenario and laparoscopic approach seems to be a minimally invasive alternative to laparotomy in patients who requires surgical treatment.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Ash A, Smith A, Maxwell D. Caesarean scar pregnancy. BJOG. 2007;114:253-63.
2. Wang CB, Tseng CJ. Primary evacuation therapy for Cesarean scar pregnancy: three new cases and review. Ultrasound Obstet Gynecol. 2006;27:222-6.
3. Jurkovic D, Hillaby K, Woelfer B, Lawrence A, Salim R, Elson CJ. First trimester diagnosis and management of pregnancies implanted into the lower uterine segment Cesarean section scar. Ultrasound Obstet Gynecol. 2003;21:220-7.
4. McKenna DA, Poder L, Goldman M, Goldstein RB. Role of sonography in the recognition, assessment, and treatment of cesarean scar ectopic pregnancies. J Ultrasound Med. 2008;27:779-83.
5. Osborn DA, Williams TR. Cesarean Scar Pregnancy-Sonographic and Magnetic Resonance Imaging Findings, Complications, and Treatment. J Ultrasound Med. 2012;31:1449-56.

6. Fylstra DL. Ectopic pregnancy within a cesarean scar: a review. Obstet Gynecol Surv. 2002;57:537-43.
7. Walsh TM, Roca FJ, Ryan N, Guan X. Total laparoscopic hysterectomy for cesarean scar ectopic pregnancy. Journal of Minimally invasive Gynecology; November-December. 2014;2(6):S114.
8. Api M, Boza A, Gorgen H. Should Cesarean Scar Defect Be Treated Laparoscopically? A Case Report and Review of the Literature. Journal of Minimally Invasive Gynecology. 2015;22(7):1145-52.
9. Guan X, Ohuoba E, Ng V. Temporary Uterine Artery Ligations for Minimizing Bleeding in Laparoscopic Resection of Cesarean scar pregnancy. Journal of Minimally Invasive Gynecology. 2013;20(6):S101.
10. Ambler DR, Budinetz TZ, Platte R, Osterholzer HO. Management of Cesarean Scar Ectopic Pregnancy: A Combined Approach. Journal of Minimally Invasive Gynecology. 2011;17(6):S91.
11. Seow KM, Huang LW, Lin MY, Tsai YL, Hwang JL. Cesarean scar pregnancy: issues in management. Ultrasound Obstet Gynecol. 2004;23:247-53.
12. Gurel S. Ectopic pregnancy. Ultrasound Clin. 2008;3:331-43
13. Soydinc HE, Evsen MS, Sak ME, Gul T. Cesarean scar pregnancy mimicking malignant tumor: a case report. J Reprod Med. 2011;56(11-12):518-20.
14. Larsen JV, Solomon MH. Pregnancy in a uterine scar sacculus an unusual cause of post abortal haemorrhage: a case report. S Afr Med J. 1978;53:142-3.
15. Zhang B, Jiang ZB. Uterine Artery Embolization Combined with Methotrexate in the Treatment of Cesarean Scar Pregnancy: Results of a Case Series and Review of the Literature Journal of Vascular and Interventional Radiology. 2012;23(12):1582-8.
16. Liu W, Shen L, Wang Q, Wang W, Sun Z. Uterine artery embolization combined with curettage vs. methotrexate plus curettage for cesarean scar pregnancy. Arch Gynecol Obstet. 2015.
17. Steller CJ, Sasaki KJ, Miller CE. Laparoscopic Resection Of Cesarean Section Scar Ectopic Pregnancy and Isthmocele Repair. Journal of Minimally invasive Gynecology. 2015;22(6):S121.
18. Khalil H, Shenassa H, Al Shayeji W, FungKeeFung K, Singh SS. Laparoscopic Management of a Cesarean Scar Ectopic Pregnancy. Journal of Minimally invasive Gynecology. 2010;17(6):S127.
19. Wang CJ, Yen CF, Chao AC, Lee CL, Soong YK. Laparoscopic Management of Ectopic Pregnancy in a Cesarean Section Scar. Journal of Minimally Invasive Gynecology. 1998;5(3):S56.
20. Burchell RC. Physiology of Internal Iliac Ligation. J Obstet Gynecology Br Common wealth. 1968;75:642-51.
21. Wagaarachchi PT, Fernando L. Fertility following ligation of internal iliac arteries for life-threatening obstetric haemorrhage: case report. Human Reprod. 2000;15(6):1311-3.
22. Nandanwar YS, Jhalam L, Mayadeo N, Guttal DR. Ligation of Internal Iliac Arteries for Control of Pelvic haemorrhage. J Postgrad Med. 1993;39:194.

Cite this article as: Kavitha Yogini D, Devi B, Palanivelu C. Caesarean scar pregnancy with scar dehiscence - successful laparoscopic management and the review of literature. Int J Reprod Contracept Obstet Gynecol 2016;5:1686-9.