

Caesarean Scar Ectopic Pregnancy: A Novel Approach to Management

Nageen Naseer^{1*}, Riordan², Shagufta Rafiq¹, Samia Azad¹, T Hayes³, Naveen Usman² and CM Cusnaider³

¹Registrar, Department of Obstetrics and Gynecology, St. Luke's General Hospital, Co. Kilkenny, Ireland

²Senior House Officer, Department of Obstetrics and Gynecology, St. Luke's General Hospital, Co. Kilkenny, Ireland

³Department of Obstetrics and Gynecology, St. Luke's General Hospital, Co. Kilkenny, Ireland

***Corresponding Author:** Nageen Naseer, Registrar, Department of Obstetrics and Gynecology, St. Luke's General Hospital, Co. Kilkenny, Ireland.

Received: October 25, 2022; **Published:** April 30, 2024

Abstract

Caesarean scar ectopic pregnancy (CSEP) is a potentially catastrophic complication of caesarean section (CS) posing both diagnostic and therapeutic challenges. Currently, there is no consensus on optimal management. We report the case of a 35-year-old patient who presented to our Early Pregnancy Assessment Unit at 9+4 weeks gestation with abdominal pain and brown vaginal discharge, on a background of one previous CS. Transvaginal ultrasound identified a gestational sac within the lower anterior uterine wall at the previous hysterotomy site. A minimally invasive surgical approach combining hysteroscopy and laparoscopy was utilized to confirm the diagnosis and commence management. Our technique was novel in that we administered diluted adrenaline into the scar site to minimize blood loss prior to performing transcervical suction curettage under laparoscopic guidance. Post-operatively a single dose of systemic methotrexate was given. β -hCG became undetectable by week five confirming successful treatment.

Keywords: Caesarean Scar Ectopic Pregnancy (CSEP); Caesarean Section (CS); β -hCG

Introduction

Caesarean scar ectopic pregnancy (CSEP) is a rare condition occurring due to blastocyst implantation within a uterine scar. When this phenomenon arises, the gestational sac is surrounded by myometrium and fibrous tissue, separated entirely from the endometrial cavity [1]. While the true incidence of CSEP remains unknown, prevalence is estimated at 1:1800 - 1:2216 [2,3]. Reports of CSEP are on the rise, perhaps reflecting the global increase in caesarean section rate, but also possibly secondary to improved diagnostic techniques [4]. Despite this, CSEP remains a relatively rare condition posing a significant risk of maternal morbidity and mortality. If intervention is delayed, CSEP has potential to result in uterine rupture causing massive maternal haemorrhage and cardiovascular collapse [5]. Current management strategies are based on previous case reports with a paucity of evidence-based guidelines to define optimal treatment. We report our experience of managing CSER at a regional hospital in Ireland.

Case Report

A 35-year-old patient, gravida2para1, with a history of one previous CS presented to our Early Pregnancy Assessment Unit at a gestational age of 9+4 weeks with abdominal pain and brown spotting per vaginam. She was haemodynamically stable but demonstrated

suprapubic tenderness on palpation. Her haemoglobin was 11.6 g/dl and beta-human chorionic gonadotropin (β -hCG) was 12935 mIU/ml. Transvaginal ultrasound identified a gestational sac within the anterior lower uterine wall at the site of the hysterotomy scar. The sac contained an embryo with a crown-rump-length of 5mm and absent cardiac activity. The uterine cavity and cervix were empty and the thickness of the anterior uterine wall measured 4 mm. With confirm diagnosis for CSEP, we proceeded with combined diagnostic hysteroscopy and laparoscopy. Hysteroscopy was utilised to explore the uterine cavity and bring the ectopic gestational tissue under direct visualisation. Diagnostic laparoscopy confirmed the presence of the sac protruding into the anterior wall of the uterus, covered by the vesicouterine fold of the peritoneum. Through a laparoscopic port, vasopressin was inserted through supra pubic port into ectopic pregnancy and 20 ml of diluted adrenaline in 0.9% normal saline (0.5 mg/50 ml) was injected into the scar tissue surrounding the sac in an effort to minimise bleeding. To reduce the risk of uterine rupture, transcervical suction curettage was then performed under laparoscopic guidance to evacuate the ectopic tissue. Blood loss was minimal and estimated at < 50 ml. Subsequent histopathological analysis confirmed the presence of chorionic villi with fragments of decidua. Post-operatively, a single dose of intramuscular methotrexate was given because laparoscopy confirmed the presence of sac protruded into anterior wall of the uterus covered by the vasico uterine fold of the peritoneum. The patient was closely monitored at ward-level and recovered well. By week five, β -hCG titres were undetectable confirming successful treatment.

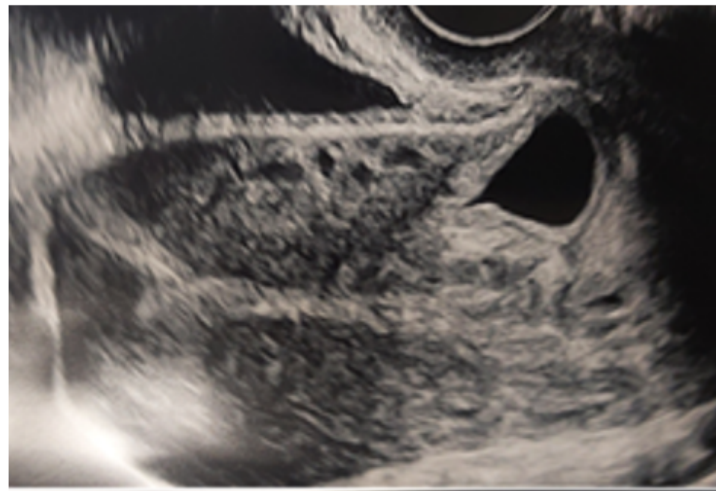


Image 1: Sagittal transvaginal ultrasound showing characteristics of a caesarean scar ectopic pregnancy: Gestational sac implanted within the lower anterior uterine wall, thin layer of myometrium between the sac and uterine serosa, and absence of cervical involvement.

Discussion

CSEP is a potentially fatal complication of CS and represents both a diagnostic and therapeutic dilemma for the obstetrician. Once identified, prompt termination is recommended to reduce the risk of major haemorrhage and to preserve fertility by avoiding hysterectomy [6]. Care of women presenting with CSEP must be individually tailored and is dependent upon the maternal condition, gestational age, presence of fetal cardiac activity, and beta-HCG level. Available resources and the experience of the treating clinicians must also be considered [7,8]. Timor-Tritsch, *et al.* reviewed 751 cases of CSEP reported in the literature from 1972 - 2011 and identified 31 potential treatment modalities, including conservative, medical, and surgical approaches [9]. Our management was directed at eliminating the gestational sac while maintaining fertility. While suction curettage has been previously reported as a potential first line intervention for CSEP [10], our approach was novel through the additional step of injecting adrenaline into the scar to minimise blood loss.

Caesarean scar pregnancy is rare type of ectopic pregnancy where by the gestational sac is partially or completely implanted with in scar of previous caesarean section.

Conclusion

Incidence of caesarean scar pregnancy (CSP) is increasing because of rising number of Caesarean sections. Prompt diagnosis of the condition is required to reduce associated morbidity. High index of suspicion is required for women with a suggestive history CSP. Ultrasound scan is the diagnostic tool of choice. Management options include medical, surgical and interventional radiology. Appropriate patient selection is important for optimal results. Major haemorrhage and hysterectomy are associate with CSP. Therefor adequate counselling and availability of surgical expertise and blood transfusion should be part of comprehensive management strategies.

In our case, minimally invasive surgical approach combining hysteroscopy and laparoscopy was utilized to confirm the diagnosis and commence management. Our technique was novel in that we administered diluted adrenaline into the scar site to minimize blood loss prior to performing transcervical suction curettage under laparoscopic guidance. Post-operatively a single dose of systemic methotrexate was given.

Bibliography

1. Coniglio C and Dickinson J. "Pregnancy following prior Caesarean scar pregnancy rupture: Lessons for modern obstetric practice". *The Australian and New Zealand Journal of Obstetrics and Gynaecology* 44.2 (2004): 162-165.
2. Jurkovic D., et al. "First-trimester diagnosis and management of pregnancies implanted into the lower uterine segment Cesarean section scar". *Ultrasound in Obstetrics and Gynecology* 21.3 (2003): 220-227.
3. Seow K., et al. "Cesarean scar pregnancy: issues in management". *Ultrasound in Obstetrics and Gynecology* 23.3 (2004): 247-253.
4. Drever N., et al. "Caesarean scar ectopic pregnancy: Experience from an Australian tertiary centre". *Australian and New Zealand Journal of Obstetrics and Gynaecology* 60.3 (2020): 330-335.
5. Ash A., et al. "Caesarean scar pregnancy". *BJOG: An International Journal of Obstetrics and Gynaecology* 114.3 (2007): 253-263.
6. Maymon R., et al. "Ectopic pregnancies in a Caesarean scar: review of the medical approach to an iatrogenic complication". *Human Reproduction Update* 10.6 (2004): 515-523.
7. Litwicka K and Greco E. "Caesarean scar pregnancy". *Current Opinion in Obstetrics and Gynecology* 23.6 (2011): 415-421.
8. Ko J., et al. "Caesarean scar pregnancy: A 10-year experience". *Australian and New Zealand Journal of Obstetrics and Gynaecology* 55.1 (2014): 64-69.
9. Timor-Tritsch I., et al. "The diagnosis, treatment, and follow-up of cesarean scar pregnancy". *American Journal of Obstetrics and Gynecology* 207.1 (2012): 44.e1-44.e13.
10. Bağlı İ., et al. "Is suction curettage an effective treatment alternative for cesarean scar pregnancies?" *European Journal of Obstetrics and Gynecology and Reproductive Biology* 258 (2021): 193-197.

Volume 13 Issue 5 May 2024

©All rights reserved by Nageen Naseer., et al.