Floating fetus: a rare complication of balloon tamponade treatment of caesarean scar ectopic pregnancy

Jake M Adkins, Rajesh Thampy,¹⁰ Chakradhar R Thupili

Department of Diagnostic and Interventional Imaging, McGovern Medical School-UTHealth, Houston, Texas, USA

Correspondence to

Dr Rajesh Thampy, rajesh.thampy@uth.tmc.edu

Accepted 5 January 2019

DESCRIPTION

A 31-year-old pregnant patient presented with complaints of persistent sharp and colicky, suprapubic and pelvic pain lasting 5 days. She was also experiencing intermittent vaginal bleeding. She was haemodynamically stable and afebrile on presentation. Her beta human chorionic gonadotropin was 17 280 mIU/mL on presentation. A pelvic ultrasound was promptly performed, which demonstrated a caesarean section scar in the anterior lower uterine segment from a prior pregnancy, with an adjacent irregularly shaped fluid collection (figure 1). The echogenicity surrounding this fluid collection was consistent with decidual reaction of a gestational sac, and the sac contained yolk sac and fetal pole without cardiac activity (figure 2). Based on the size of the gestational sac, the estimated gestational age was 6 weeks.

After counselling about treatment options for caesarean scar ectopic pregnancy, she declined methotrexate management and elected to proceed with Cook balloon placement. The Cook balloon is an intrauterine balloon which on inflation crushes the gestational sac. On postoperative day 1 from this procedure, the patient was noted to have severe abdominal pain. A bedside ultrasound demonstrated a 5 cm haematoma along the anterior portion of the uterus. This was concerning for uterine scar rupture. The patient, however, refused surgical management at this time. On the subsequent day her abdominal pain worsened and her haemoglobin

Figure 2 Transvaginal ultrasound shows surrounding echogenic rim consistent with a decidual reaction. Yolk sac (arrow) and fetal pole (cursors) are noted within the gestational sac.

dropped from 11.2 to 7.1 g/dL, raising concern for active bleeding.

CT scan of the abdomen and pelvis was performed to evaluate for complications of intrauterine balloon treatment, confirmation of the haematoma and suspected uterine scar rupture. On CT, a moderate-sized haematoma was seen adjacent to the anterior lower segment of the uterus (figure 3). Additionally, haemoperitoneum was seen within the pelvis, tracking along the paracolic gutters and the

Figure 1 Transabdominal ultrasound initially performed on admission demonstrated an irregular hypoechoic fluid collection (arrowhead) filling the lower anterior uterine segment adjacent to prior hysterotomy site.

Figure 3 Portal venous phase CT sagittal image after intrauterine balloon inflation procedure demonstrating dehiscence of the caesarean scar (arrowhead) with adjacent fluid collection (arrow) consistent with haematoma. UB, urinary bladder.

© BMJ Publishing Group Limited 2019. No commercial re-use. See rights and permissions. Published by BMJ.

To cite: Adkins JM, Thampy R, Thupili CR. *BMJ Case Rep* 2019;**12**:e228500. doi:10.1136/bcr-2018-228500

Figure 4 Expelled ectopic gestational sac (arrowhead) in the peritoneal cavity adjacent to the anterior abdominal wall. Haematoma in the pelvis (arrowhead). A, anterior; P, posterior; UB, urinary bladder.

liver. The gestational sac, which was now displaced into the peritoneal cavity containing a fetal pole measuring roughly 0.7 cm, corresponding to the ultrasound measurements, was demonstrated along the anterior abdominal wall (figure 4). These findings were consistent with dehiscence of the anterior lower segment uterine scar status postballoon dilation with intraperitoneal expulsion of the gestational sac. At this time the patient underwent surgery, which confirmed rupture at the hysterotomy scar and dissection down the round ligament. Evacuation of the haematoma, hysterotomy repair and removal of the gestational sac were performed. The patient made a prompt recovery and was shortly discharged thereafter.

Caesarean scar ectopic pregnancy is relatively rare, being detected in 1/2000–1/8000 pregnancies.¹ Although it is intrauterine, the morbidity and mortality associated with caesarean

scar ectopic pregnancy are very high, with increased incidence of uterine rupture.² Caesarean scar ectopic pregnancy is managed surgically or medically by injecting methotrexate. A new minimally invasive procedure has been described using an inflated balloon to produce tamponade of the gestational sac.³ In the above case, the procedure resulted in caesarean scar rupture and expulsion of the gestational sac into the peritoneal cavity. To the best of our knowledge, this complication has not been described in the literature, since this is a relatively new procedure. Although ultrasound is the primary modality for evaluation of ectopic pregnancy, these images demonstrate the utility of CT in evaluating extrauterine structures and the extent of haemorrhage when uterine rupture is suspected.

Learning points

- ▶ Caesarean scar ectopic pregnancy is a rare occurrence which should be considered in multigravid women with a history of caesarean section.
- ▶ Intrauterine balloon tamponade treatment of caesarean scar ectopic pregnancy can cause uterine rupture/dehiscence.
- ▶ CT with intravenous contrast will help in evaluating extrauterine structures and the extent of haemorrhage when uterine rupture is suspected.

Contributors JMA and RT prepared the primary manuscript, which was revised by CRT.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Birch Petersen K, Hoffmann E, Rifbjerg Larsen C, *et al.* Caesarean scar pregnancy: a systematic review of treatment studies. *Fertil Steril* 2016;105:958–67.
- 2 Jurkovic D, Knez J, Appiah A, *et al.* Surgical treatment of Cesarean scar ectopic pregnancy: efficacy and safety of ultrasound-guided suction curettage. *Ultrasound Obstet Gynecol* 2016;47:511–7.
- 3 Timor-Tritsch IE, Monteagudo A, Bennett TA, *et al.* A new minimally invasive treatment for cesarean scar pregnancy and cervical pregnancy. *Am J Obstet Gynecol* 2016;215:351.e1–351.e8.

Copyright 2018 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <https://www.bmj.com/company/products-services/rights-and-licensing/permissions/>
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow