PERINATAL JOURNAL

Case Report

Perinatal Journal 2022;30(1):84–86

Bladder dissection for cesarean hysterectomy in case of severe placenta percreta: tips and tricks

Raffaele Riccardi, Elisabetta Gragnano, Gabriele Saccone, Cinzia Ferrara, Giuseppe Bifulco

University of Naples Federico II, Naples, Italy

Abstract

Objective: In this article, we report a severe case of placenta percreta in order to present our surgical approach for bladder dissection in a pregnancy with placenta accreta spectrum (PAS).

Case: Bladder dissection was performed using bipolar forceps and bipolar scissors and with a meticulous lateral-to-medial dissection on each side.

Conclusion: We recommend electrodissection of the bladder using bipolar forceps. Bipolar device may indeed help in the hemostasis of the placenta vessels while performing the bladder dissection.

Keywords: Placenta previa, accreta, hysterectomy, postpartum hemorrhage.

Introduction

Placenta accreta spectrum (PAS) is a complication of pregnancy characterized by an abnormal adherence of the placenta to the uterine wall. Recently, Einerson et al. argued that PAS exists as a disorder of defective decidua and uterine scar dehiscence, not as disorder of destructive trophoblast invasion.[1] PAS can be classified clinically and radiologically by its histopathologic grade, in placenta accreta, increta and percreta.[2,3]

PAS is associated with high risk of maternal morbidity, and the severity of the complications varies according to the depth of villous invasion.[2,4] The gold standard approach for PAS is cesarean hysterectomy performed at around 32–34 weeks according to the severity of the condition.[2,5,6] Different surgical techniques have been suggested in order to improve maternal outcome and reduce blood loss.[7] Bladder dissection is often the most prolonged surgical time, may be associated with protracted venous bleeding, and therefore requires meticulous dissection.[7]

Here, we report a severe case of placenta percreta in order to present our surgical approach for bladder dissection.

Case Report

A 35-year-old woman was referred to our institution at 29 weeks of gestation for suspected placenta accreta and frank hematuria. She had two prior cesarean deliveries at term, and one prior abortion with surgical evacuation in her history. Ultrasound examination showed placenta previa with presence of placenta lacunae, loss of the clear space, increased vascularity and disruption of the bladder-myometrial interface with suspicious of bladder and cervical invasion (**Fig. 1**). MRI showed uterine bulging,

Correspondence: Elisabetta Gragnano, MD. University of Naples Federico II, Naples, Italy.
e-mail: elisabettagragnano@gmail.com / **Received:** October 5, 2021; **Accepted:** February 20, 2022

How to cite this article: Riccardi R, Gragnano E, Saccone G, Ferrara C, Bifulco G. Bladder dissection for cesarean hysterectomy in case of severe placenta percreta: tips and tricks. Perinat J 2022;30(1):84–86. doi:10.2399/prn.22.0301009

ORCID ID: R. Riccardi 0000-0002-7963-2144; E. Gragnano 0000-0002-7963-2144; G. Saccone 0000-0002-7963-2144; C. Ferrara 0000-0002-7963-2144; G. Bifulco 0000-0002-7963-2144

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focal interruption to myometrial wall and bladder invasion of the placental tissue.

A cesarean hysterectomy at 32 weeks was planned. At the time of intervention, a cystoscopy was performed and ureteral stents were placed. The cystoscopy showed placental vessels on the posterior wall of the bladder with no trigone involvement.

Midline access was performed and showed placenta accreta with lateral and anterior invasion. Hysterotomy was made vertically toward the fundus to deliver the fetus avoiding the placenta. Then, the bladder flap was ligated to the skin.

Superior devascularization was then performed with ligation of the round ligaments and utero-ovarian pedicles bilaterally. The uterus was then skeletonized down to the cardinal ligaments and retroperitoneal dissection was performed. We also performed peritoneal dissection to locate the bifurcation of the common iliac arteries and the ureters. The internal iliac artery was then ligated bilaterally. Bladder dissection was performed using bipolar forceps and bipolar scissors. Meticulous lateral-to-medial dissection on each side was performed (**Supplementary material: *S-Video 1***). Then, an adequate exposure for vault entry was created and the main uterine artery pedicles were ligated. The colpotomy was performed with circumferential incision around the cervicovaginal margin, the vaginal angles were ligated and vaginal vault closed after removal of the uterus (**Fig. 2**).

Discussion

Bladder dissection is the most high-risk step at the time of cesarean hysterectomy for placenta accreta. The risk of massive bleeding is high and any inadvertent injury to the blood vessels may lead to a massive life-threatening hemorrhage. In this video article, we recommend electrodissection of the bladder using bipolar forceps. Bipolar device may indeed help in the hemostasis of the placenta vessels while performing the bladder dissection, and should be used as gold standard technique over monopolar cautery that can lead to vessel injury. Notably, placenta previa and accreta are also characterized by newly formed blood vessels. The newly formed feeding blood vessels as a result of 'neovascularization' lack the tunica media (i.e. the muscle layer) and, therefore, may not be amenable for traditional hemostatic measures such as sutures or diathermy, which are dependent on the tunica media. This can result in torrential bleeding during a hysterectomy, and higher risk of damage to adjacent organs such as the bladder or ureters.[8]

Fig. 1. Vascularity and disruption of the bladder-myometrial interface.

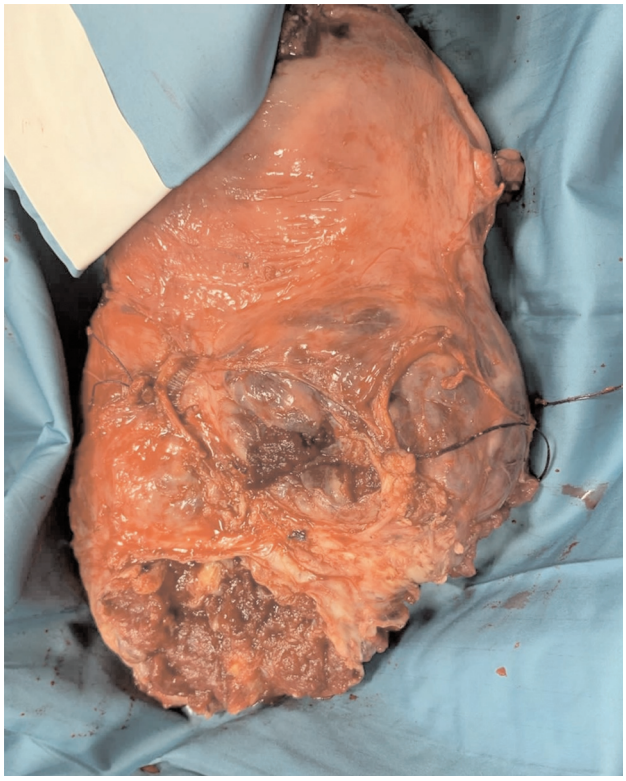

Fig. 2. Uterus after hysterectomy and invasion.

Conclusion

In summary, we provided surgical technique details regarding hemostasis of the placenta vessel at level of bladder at the time of cesarean hysterectomy for placenta accreta using bipolar device.

Funding: This work did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Compliance with Ethical Standards: The authors stated that the standards regarding research and publication ethics, the Personal Data Protection Law and the copyright regulations applicable to intellectual and artistic works are complied with and there is no conflict of interest.

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Supplementary material: *This article offers supplementary digital content which is available at www.perinataljournal.com*