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J Case Rep Images Obstet Gynecol 2025 Jul-Dec;11(2):50–54.
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CASE REPORT PEER REVIEWED | OPEN ACCESS

A rare complication of dilation and evacuation: Unrecognized extrauterine retained products of conception

Aviana Terschueren, Lauren Siewertsz van Reesema, Joseph Hudgens

ABSTRACT

Introduction: Surgical abortions, including dilation and evacuation, are among the safest gynecological procedures, with complication rates ranging from 0.5–4.0%. Uterine perforation, though rare (0.2–0.8%), can result in serious sequela, including translocation of retained products of conception into the abdominal cavity. We present a rare case of abdominal retained products of conception following a second-trimester dilation and evacuation.

Case Report: A 29-year-old G3P1112 underwent an elective surgical abortion at 17 weeks' gestation, complicated by hemorrhage necessitating transfer to an outside hospital. She was treated with uterotonics and a blood transfusion and was discharged after a 6-day hospitalization. Initial transvaginal ultrasound showed no intrauterine retained products of conception, though a right adnexal cyst was noted. Eight days later, she re-presented with similar symptoms. Abdominal imaging was suggestive of an intra-abdominal fetal skull. She was transferred to our facility for surgical evaluation. Exploratory laparoscopy identified a 4×4 cm inflammatory mass adherent to the uterine fundus and abdominal wall, containing purulent fluid and fetal calvarium. A mesenteric defect in the sigmoid colon suggested prior instrumentation injury, though the bowel lumen remained intact. The mass was excised, and pathology confirmed degenerative fetal tissue. The patient recovered well post-operatively.

Conclusion: This case highlights the importance of confirming complete evacuation following a second-trimester surgical abortion and maintaining high clinical suspicion for extrauterine retained products of conception in patients with persistent symptoms, even in the absence of obvious intrauterine findings. Magnetic resonance imaging may be helpful in equivocal cases, and diagnostic laparoscopy should be considered when imaging and clinical presentation are inconclusive.

Keywords: Dilation and evacuation, Retained products of conception, Surgical complication, Uterine perforation

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Received: 08 August 2025
Accepted: 23 October 2025
Published: 26 December 2025

How to cite this article

Terschueren A, Siewertsz van Reesema L, Hudgens J. A rare complication of dilation and evacuation: Unrecognized extrauterine retained products of conception. J Case Rep Images Obstet Gynecol 2025;11(2):50–54.

Article ID: 100219Z08AT2025

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doi: 10.5348/100219Z08AT2025CR

INTRODUCTION

Surgical abortions, including dilation and evacuation (D&E), are considered overall to be very safe [1]. Complication rates are low, ranging from 0.5–4.0%, and may include hemorrhage, infection, cervical lacerations, and uterine perforation. Uterine perforation is one of the most serious complications that can arise; however, recent studies show perforation rates only ranging from 0.2–0.8% [1]. Translocation of retained products of conception (RPOC) into the abdominal cavity is a

rare but serious complication of uterine perforation. If abdominal translocation of RPOC occurs, initial transvaginal ultrasound may be sub-optimal in detecting this phenomenon, leading to increased morbidity and mortality for patients.

To our knowledge, only a few case reports have been published showing unrecognized RPOC translocating into the abdominal cavity [2–4]. Other reports have also described omental/bowel injury after a surgical abortion that was initially unrecognized [5–7]. In each of the cases listed, dedicated abdominal imaging was required to identify the pathology, and surgery was required for management in all cases.

In many reported cases, D&E procedures were performed in outpatient or clinic settings, where operative records were often unavailable. Although standard protocols exist to minimize the risk of RPOC (including thorough fetal tissue examination and optional ultrasound or digital assessment) [8], gaps in documentation and follow-up can hinder early recognition. According to a retrospective review of 184 cases, approximately 1% of second-trimester surgical abortions result in retained products [9]; however, the proportion that go unrecognized remains unclear and no systematic reviews have been done supporting this data. During a D&E, it is imperative that examination of the fetal tissue is completed to confirm evacuation of all contents. For any procedure above 14 weeks gestation, this includes identifying thorax, spine, calvarium, all four extremities, and placenta. If it is unclear, an ultrasound or digital exam of the uterine cavity is recommended for confirmation [8].

Here, we present a case of abdominal RPOC with possible mesenteric injury in the setting of persistent vaginal bleeding following initial D&E.

CASE REPORT

A 29-year-old G3P1112 elected to terminate an undesired pregnancy at approximately 17 weeks' gestation. Her procedure was complicated by a vaginal hemorrhage for which she was transferred to an outside hospital. She was initially hypotensive with a blood pressure of 89/72 requiring administration of uterotonics and 1 L of packed red blood cells. There was also concern for post-operative infection in the setting of tachycardia to the 130s, a white blood cell count of 22.1, and a tender abdomen. The patient was given ceftriaxone, doxycycline, and metronidazole. Initial transvaginal ultrasound did not show any RPOC, although there was a right ovarian complex cyst measuring 5.6 × 5.0 × 5.5 cm (Figure 1). She was hospitalized for six days in which her white blood cell count normalized to 10.9 and her vital signs were within normal limits. Her hemoglobin dropped from her baseline of 12.3 down to 7.0–8.0 during this admission and remained in this range until discharge. Her hospital course was also complicated by an incompatible blood transfusion and pneumonia.

Eight days later, the patient re-presented to an outside facility for fevers/chills and right lower quadrant abdominal pain. Her white blood cell count was still stable at 7.8 and her hemoglobin further dropped to 6.3, requiring an additional blood transfusion. Vital signs were stable. Initial computed tomography (CT) scan showed concern for a pulmonary embolism and showed an unusual bowel loop-like structure in the pelvis. Transvaginal ultrasound at this time re-demonstrated a right adnexal complex cystic structure with posterior acoustic shadowing. A CT with contrast was then performed and noted that the aforementioned abnormal bowel loop was "not part of the gastrointestinal tract but instead appeared to be a collapsed fetal skull and the abnormal structure probably represented a fetal body with gas from necrosis" (Figure 2). She was then transferred to our facility for further surgical management.

Medical records from the clinic that performed the patient's original procedure were unavailable. Due to the patient's history of recent elective termination of pregnancy and right lower quadrant abdominal pain, and given her abdominal CT findings, intra-abdominal retained products of conception were suspected. A magnetic resonance imaging (MRI) study was then ordered to better evaluate the suspected diagnosis, however, could not be completed in time prior to the scheduled surgical procedure. Diagnostic laparoscopy revealed a 4 × 4-cm mass between the right anterior uterine fundus and anterior abdominal wall that was noted to have thick fibrinous walls with a surrounding inflammatory ring. Purulent gray-yellow thick fluid was evacuated. There was also a thin piece of tissue resembling fetal calvarium (Figure 3). A loop of sigmoid colon was densely adherent to this mass with an approximate 1-cm defect noted within the mesentery of the sigmoid colon, presumed to be a pre-existing sequela of the uterine perforation and instrumentation of previous D&E (Figure 4). General surgery was consulted intra-operatively and performed a rigid proctoscopy with air leak test that did not show air bubbles, supporting an intact bowel lumen. It was thus deemed unnecessary to repair the defect and the decision was made to observe the patient post-operatively. Chromopertubation was then performed and there was no leakage of methylene blue dye from the uterus (Figure 3). Pathologic examination of the mass revealed fetal tissue with degenerative changes.

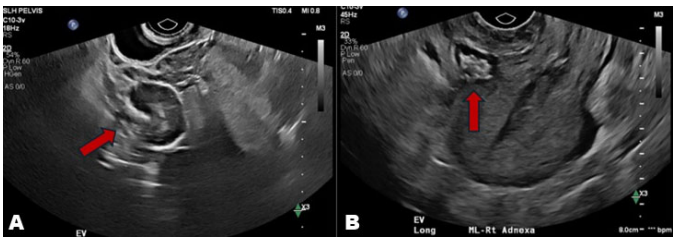

Figure 1: Transvaginal ultrasound showing a complex cystic structure in the right adnexa measuring about 5.6 × 5.0 × 5.5 cm with hazy posterior acoustic shadowing. No retained products of conception noted within the endometrial canal, only fluid. (A) Transverse view of right adnexa. (B) Longitudinal view of right adnexa with endometrium showing no intrauterine products.

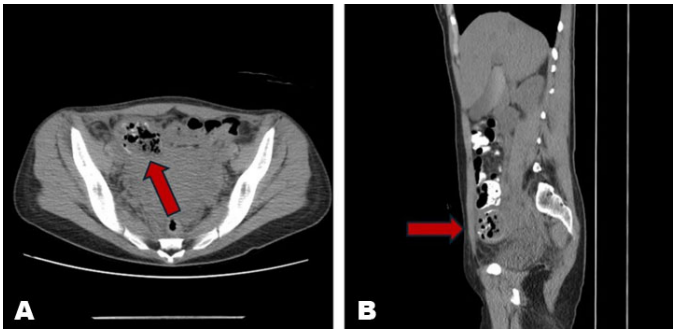

Figure 2: CT of the abdomen/pelvis with contrast showing a round calcified structure measuring 10.0 × 5.0 × 3.7 cm with gas from necrosis and suspected collapsed fetal skull. (A) Axial view. (B) Sagittal view.

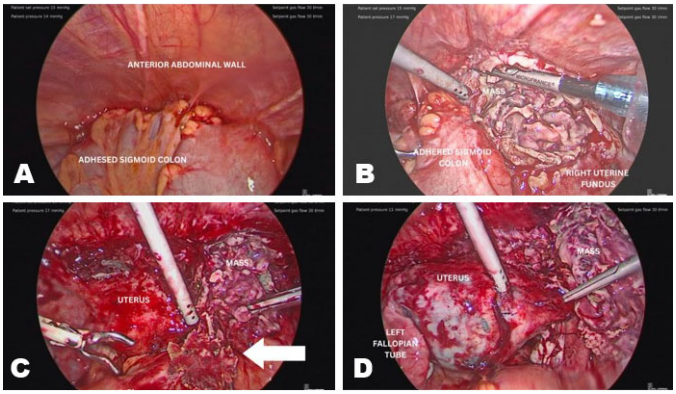

Figure 3: Intra-operative images. (A) Initial view of pelvis upon entry. Note the sigmoid colon is adhered to the anterior abdominal wall. (B) 4 × 4-cm mass between the right anterior uterine fundus and anterior abdominal wall. A loop of sigmoid colon was densely adherent. The mass was noted to have thick fibrinous walls with surrounding inflammatory rind. Purulent gray-yellow thick fluid was found within. (C) The same mass with a thin piece of fetal calvarium (as noted by the arrow). (D) Chromopertubation with no leakage of methylene blue from the anterior/posterior/lateral uterine walls.

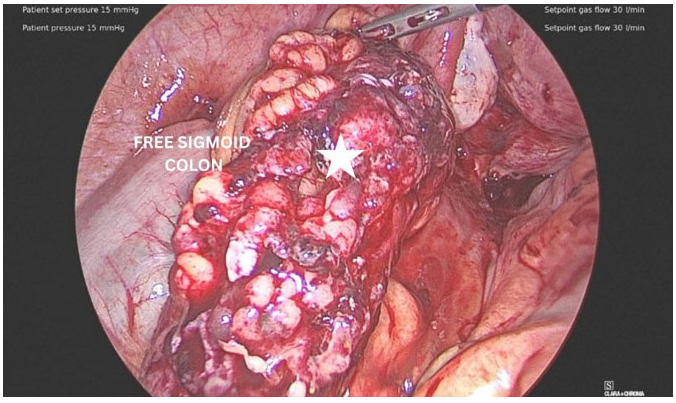

Figure 4: Intra-operative image. An approximately 1-cm defect noted within the mesentery of the sigmoid colon at the area of colon that was densely adherent to the right anterior fundal portion of the uterus. Bowel lumen intact as shown by rigid proctoscopy.

The patient's post-operative course was complicated by a post-operative fever on day three with a new cough in the setting of previously treated pneumonia. White blood cell count was 12.7 and presumed to be mildly elevated due to previous surgical procedure. She was initially on oral Augmentin and Flagyl and was transitioned to intravenous (IV) Zosyn and Flagyl to penetrate any remaining intra-abdominal infection. By post-operative day six, she was switched back to oral Augmentin and Flagyl and remained afebrile with normal vital signs, white blood cell counts, and hemoglobin trends. The patient was discharged home on post-operative day seven without further complication.

DISCUSSION

After a second trimester D&E, it is critical to confirm evacuation of all products of conception. Standard protocol includes a detailed examination of fetal tissue, and in cases of uncertainty, confirmation via ultrasound [8]. Initially, in this case, there was low suspicion for RPOC being the source of hemorrhage as the initial transvaginal ultrasound showed only a right adnexal complex structure, ruling out any intra-uterine retained product. We presume that visual inspection of all components of fetal tissue was not performed in the setting of emergent vaginal bleeding and immediate transfer to an outside hospital. This highlights the importance of adhering to standard protocol when performing a D&E. Other factors that can cause hemorrhage after a second trimester surgical abortion include uterine atony, abnormal placentation, mechanical injuries, and coagulopathies [10]. These pathologies became lower on the differential as bleeding was initially effectively managed with uterotonics at the outside facility.

In this case, obtaining advanced imaging earlier in the clinical course would likely have aided in the diagnosis sooner. Although we were unable to utilize MRI imaging, according to the literature, the most sensitive imaging modality for extrauterine RPOC is MRI. Magnetic resonance imaging of the abdomen is favored in complex gynecological/abdominal surgical cases because soft tissue contrast and multiplanar imaging capabilities allow for superior visualization of anatomy and extrauterine pathology. Magnetic resonance imaging is less susceptible to artifact caused by factors such as bowel gas and obesity when compared to ultrasound, and intra-operator variability in image quality is minimized [11]. Abdominal MRI should be considered when transvaginal ultrasound and CT imaging are unrevealing, especially when clinical suspicion is high.

Lastly, this case highlights the risk of bowel injury associated with second trimester D&E. Our patient fortunately did not have any sequela from this injury as the bowel lumen remained intact, but dense adhesions and a mesenteric defect suggested prior trauma. To our knowledge, no studies have critically evaluated the risk of bowel injury during a second trimester surgical abortion,

though some case reports have described unrecognized omental/bowel injuries status-post surgical abortion [5–7]. We want to highlight that bowel injury is a risk and that certain factors put patients at higher risk. The level of physician training has been shown to be one of the most significant risk factors for uterine perforation and associated bowel injury. Unfortunately, in this case, we were unable to collect this specific information. Additional risk factors include advanced maternal age, retroverted uterus, history of prior uterine surgery including surgical abortions and cesarean sections, greater parity, history of previous cervical procedures (such a cold knife cone), failure to use ultrasound, and underestimation of gestational age [12]. Our patient was young with no prior surgical history and an anteverted uterus, and it is therefore difficult to ascertain why this mesenteric defect occurred. Though rare, clinicians should maintain high suspicion for bowel injury in patients presenting with gastrointestinal symptoms post-abortion, especially when uterine rupture and RPOC are being considered.

Ultimately, the decision to proceed with diagnostic laparoscopy with equivocal imaging and persistent symptoms is difficult. In the setting of persistent pain and fevers after a surgical abortion, regardless of a thorough workup, we propose that surgical management via diagnostic laparoscopy should always be considered, especially when clinic documentation of the procedure cannot be obtained.

CONCLUSION

This case demonstrates a rare but serious complication of a second trimester D&E—abdominal RPOC with suspected mesenteric injury secondary to uterine perforation. It demonstrates the importance of adhering to post-abortion guidelines, including thorough fetal tissue assessment, appropriate documentation, and clear interfacility communication. Magnetic resonance imaging should be considered when conventional imaging is inconclusive. Lastly, persistent abdominal or gastrointestinal symptoms post-abortion should prompt evaluation for uterine perforation and possible bowel injury, and diagnostic laparoscopy should not be delayed when clinical suspicion remains high.

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Acknowledgments

An AI technology, CHATGPT (GPT-5 model), was utilized for editing of this case report. Specifically, it was used to help edit and organize the writing in the abstract section labeled "Case Report" and "Conclusion." It was also utilized to help edit the writing in some of the introduction section. This technology was not used to gather information and was only used for editing purposes.

Author Contributions

Aviana Terschueren – Conception of the work, Design of the work, Acquisition of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Lauren Siewertsz van Reesema – Analysis of data, Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Joseph Hudgens – Analysis of data, Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

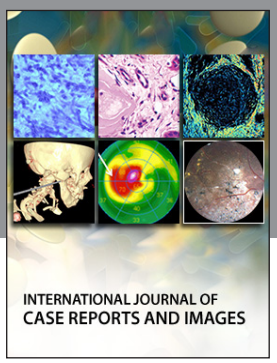
Guarantor of Submission
The corresponding author is the guarantor of submission.

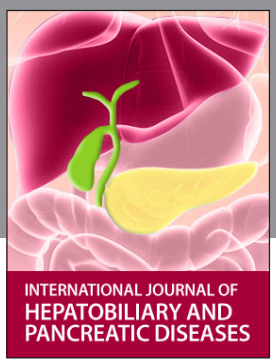
Source of Support
None.

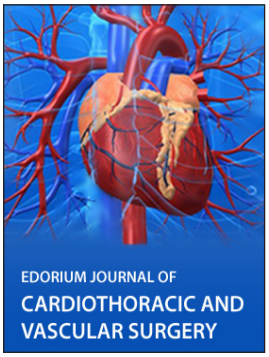
Consent Statement
Written informed consent was obtained from the patient for publication of this article.

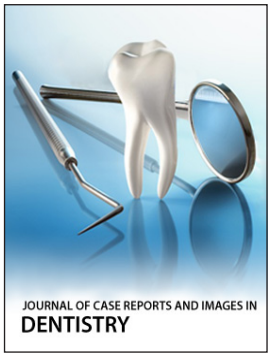
Conflict of Interest
Authors declare no conflict of interest.

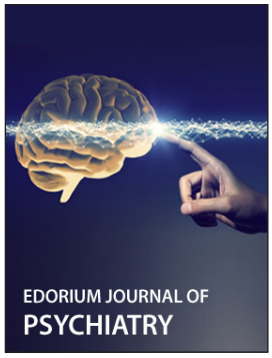
Data Availability
All relevant data are within the paper and its Supporting Information files.

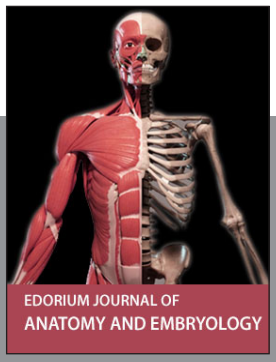


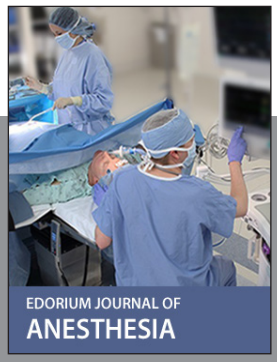












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