Clandestine abortion resulting in uterine perforation and a retained foreign body led to generalized peritonitis: a case report from Lilongwe, Malawi

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Abortion is criminalized in Malawi in the absence of a life-threatening condition. Consequently, women often undergo unsafe abortions. A large proportion of abortions performed in Malawi require subsequent treatment at a healthcare facility. We describe the case of a 17-year-old who presented with generalized peritonitis and was found intraoperatively to have a necrotic and perforated uterus with a stick retained in her abdominopelvic cavity from a clandestine abortion. This case demonstrates the need for awareness and vigilance among healthcare providers in all specialties to suspect surgical abortion complications as a cause of generalized peritonitis and points to the need for further studies on the optimal management of such patients.

Key words: abortion complications, case report, low-income country, Malawi abortion law, unsafe abortion

Introduction

In Malawi, abortion is criminalized by Articles 149, 150, and 151 in Chapter XV of the country's penal code. Breach of these articles can lead to a felony charge and prison sentence of 14, 7, or 3 years, respectively.[1] In 2021, the High Court of Malawi clarified that per Chapter XXII, Article 243, an exception is made when the life and health of a pregnant person is in danger.[2] According to 2015 data, an estimated 141,000 abortions were performed in Malawi, translating to 16% of all pregnancies ending in an abortion in that year.[3] Of those 141,000 abortions performed, 60% led to complications that required treatment in a health facility, and overall, 33% of women who experienced an abortion complication did not receive the necessary treatment.[3] We describe the case of a 17-year-old who presented with generalized peritonitis to the general surgery department of the Kamuzu Central Hospital (KCH), the tertiary referral center in Malawi's central region. The patient underwent an exploratory laparotomy and was found to have a perforated necrotic uterus with a broken stick within the peritoneal cavity. Her tumultuous and prolonged hospital course exemplifies the devastating impact of unsafe abortion in a low-income country (LIC) where abortion is criminalized.

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Written informed consent was obtained from the patient's legal guardian for publication of this case report and the accompanying images.

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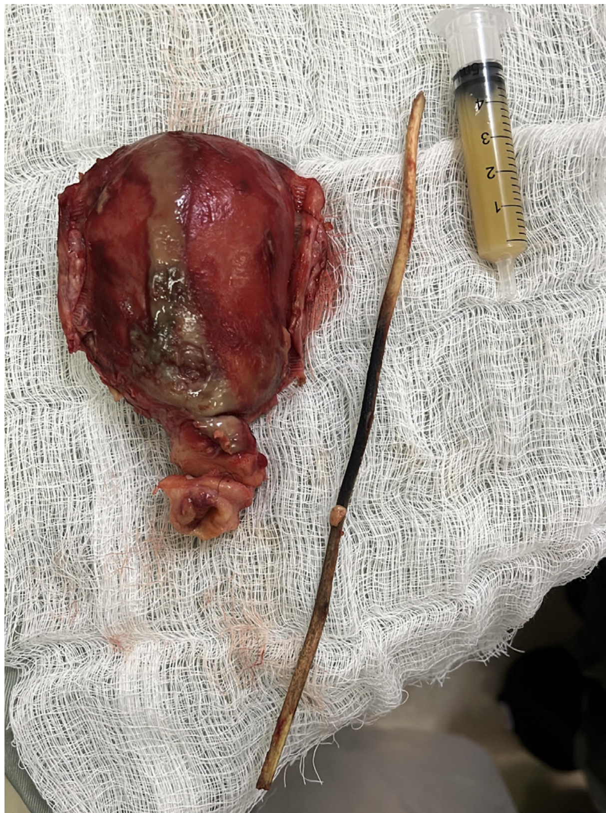
Case description

The patient was a previously healthy 17-year-old female who was initially seen by the general surgery department with a chief complaint of abdominal pain and distention for 1 week and the inability to pass stool for 2 days. A urine pregnancy test was negative. Initially, the patient denied any menstrual irregularity or amenorrhea. However, upon further questioning, she reported 2 to 3 months of amenorrhea, followed by 2 days of vaginal bleeding 2 weeks before presentation. She was then promptly transferred to the Obstetrics and Gynecology (OB/GYN) department.

In the OB/GYN triage, the patient was afebrile with a pulse of 134 beats per minute and a blood pressure of 119/60. She had a distended abdomen that was dull to percussion and rebound tenderness was displayed in all quadrants. The bowel sounds were hypoactive. A bimanual pelvic examination was performed and minimal purulent cervical discharge was noted. The patient and her guardian denied a history of pregnancy or any procedures. On transabdominal ultrasound, the uterus seemed to be empty without an obvious myometrial defect. Free fluid with hyperechoic debris in the abdomen and pelvis was noted. Peritonitis secondary to pelvic inflammatory disease was suspected. The white blood cell count was elevated at 12.87×10^3 cells/uL with microcytic anemia (hemoglobin of 8.4 g/dL) and albumin was low at 2.19 g/dL. The patient's blood was crossmatched while fluid resuscitation was commenced and intravenous (IV) ceftriaxone and metronidazole were started.

FIGURE 1
Perforated uterus, retained stick, and pus removed during first surgery



Left indicates uterus and cervix with posterior perforation and gross evidence of necrosis. *Middle* indicates stick retrieved from the patient's abdomen, which has been shaved to a sharp point (superiorly). *Right* indicates pus sample from primary surgery.

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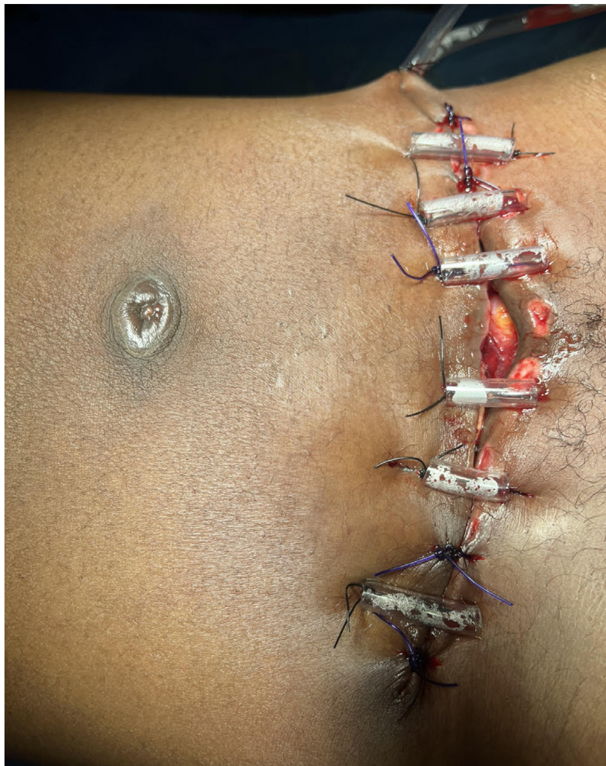
An exploratory laparotomy was initiated 4 hours after presentation to the OB/GYN department. A Pfannenstiel incision was used for abdominal entry. One liter of foul-smelling purulent fluid was suctioned from the peritoneal cavity and a sample was sent for culture (Figure 1, right). The bowels and appendix seemed normal. A stick, approximately 15 cm long and 3 mm in diameter, was found extending from the pouch of Douglas into the abdomen, resting along the posterior peritoneum, slightly to the left of the aorta with one end shaved to a sharp point (Figure 1, middle). A posterior uterine perforation was noted, and the uterus itself appeared necrotic and coated in pus with multiple dusky areas (Figure 1, left) and was deemed unsalvageable by 2 OB/GYN specialists. A total abdominal hysterectomy was performed. Washout was done with 3 L of normal saline. A gravity drain was placed in the pelvis. The estimated blood loss was 300 mL. On postoperative day 1, the patient was found with her pelvic drain having fallen out. On postoperative day 3, she complained of vomiting and new onset fever and tested positive for malaria. She was treated with a 3-day course of lumefantrine-artemether, and her symptoms resolved. The abdominal pus culture showed no growth. The patient was discharged home on postoperative day 8 via the One Stop Center (for survivors of physical and sexual violence) after completing 7-days of IV antibiotics.

On postoperative day 14, she returned to KCH for abdominal pain, fever, draining of pus from her incision, and was found to have a fascial dehiscence. IV benzylpenicillin, gentamycin, and metronidazole were started. The patient's hemoglobin level was 6.6 g/dL. Because of a lack of blood products and operating theater space, there was a delay in care. Two days after re-admission, when blood products became available, the patient was transfused with 2 pints of whole blood and subsequently taken to the operating theater for an exploratory laparotomy. Cultures of the purulent fluid were retaken. The bowel was densely matted in the upper abdomen but could be gently removed from the pelvis to visualize an intact vaginal cuff, viable adnexa, and 300 mL of pus in the pelvis. A wash out with 2 L of normal saline was performed. Necrotic fascia, peritoneum, and subcutaneous tissues were debrided sharply. A drain was placed in the pelvis and a second in the upper abdomen. Because of the extent of fascial debridement, retention sutures were placed, and the central portion of the incision was left open for additional drainage and closure via secondary intention (Figure 2). Postoperatively, the patient was transfused with an additional pint of whole blood. The drains were removed on postoperative day 3. On postoperative day 5, Acinetobacter sensitive to amikacin grew from abdominal cultures. The patient completed a 5-day course of amikacin. Iron supplementation was initiated. Wound care with daily wet to dry dressing changes and a high-protein diet were commenced. The patient requested discharge on postoperative day 35 following the second surgery to avoid becoming further behind in school because she had missed the first week of her standard 8 year. Her wound was deemed to have granulated and contracted sufficiently (Figure 3), and she was discharged home to continue daily wound care at her local health center with instructions to return for an examination in 4 weeks (because of a

FIGURE 2
Abdomen immediately after the second surgery



Foley catheter bags were used as gravity drains and were placed into the pelvis and upper abdomen through a single 5 mm incision (insertion site at superior aspect of image). Retention sutures with polydioxanone or nylon sutures were used with Foley catheter bag tubing acting as a bridge. Deep subcutaneous sutures were placed between the retention sutures laterally. The center of the wound was left open for additional drainage and closure by secondary intention.

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lack of funds, she did not agree to more frequent follow-up). She did not return for this visit and did not provide a contact number.

Discussion

The World Health Organization defines safe abortion as an abortion done via the appropriate method for gestation by a trained provider. If both criteria are not met, the abortion is considered unsafe.[4] Of the approximately 25.1 million unsafe abortions performed annually worldwide from 2010 to 2014, 97% of these occurred in developing countries. In countries where abortion is banned or allowed only to save the woman's physical life or preserve health, 75% of abortions were found to be unsafe, and in LICs, 80% of abortions are found to be unsafe.[4]

In Malawi, the maternal mortality ratio was most recently estimated to be 381 deaths per 100,000 live births.[5] The Report on the Confidential Enquiry into Maternal Deaths in Malawi from August 2020 to December 2022 estimated that 3.6% of the 809 deaths reviewed during this period were caused by abortion or miscarriage. Of these deaths, there was evidence of unsafe abortion in 27%.[6] Previous estimates state that 6% to 18% of maternal deaths in Malawi are thought to be due to abortion complications.[3,7] Despite these estimates, there is a paucity of literature on the true picture of unsafe abortions and the optimal management of the complications from unsafe surgical abortions in Malawi and other LICs in sub-Saharan Africa.

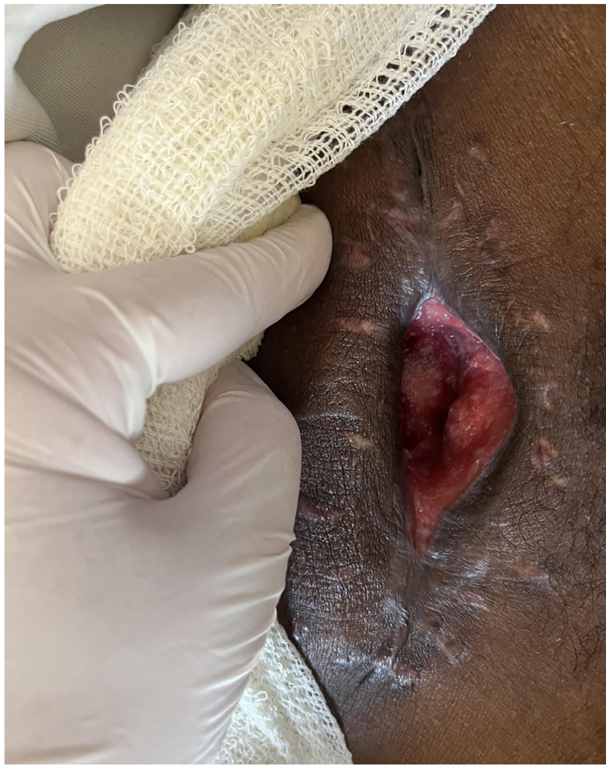
In 1991, Gardeil et al,[8] published a retrospective review of 600 consecutive admissions to KCH with a diagnosis of abortion. There were 33 cases of obviously induced abortion, and 30 of these patients were found with a stick (usually cassava) in the cervix, vagina, or uterus. Of these 33 patients, 6 underwent an exploratory laparotomy with a 50% mortality. Two of these patients underwent exploratory laparotomy with drainage of pus (1 died 3 weeks postoperatively), 2 underwent exploratory laparotomy and subtotal abdominal hysterectomy (both patients died, 1 at 19 days and the other 4 weeks postoperatively), and 2 underwent exploratory laparotomy with total abdominal hysterectomy (both survived to discharge).[8]

In 2022, Odunvbun et al[9] described a series of 44 patients who underwent exploratory laparotomy owing to complications of a surgically induced abortion in Liberia with a 22.4% mortality rate. Among those, 10 of the 44 patients underwent a hysterectomy for a necrotic or septic uterus.

Conclusion

Patients who seek abortion in countries, such as Malawi, where abortion is criminalized, may pursue unsafe abortion, which increases their risk for severe morbidity and mortality. This case report highlights that patients with postabortion complications may first present to nongynecologic clinical services and withhold pertinent details because of stigma and fear of legal repercussions. Healthcare providers must remain vigilant in suspecting unsafe abortion as a cause of peritonitis in patients with a uterus. We aim for this case report to inspire future studies that focus on the intra- and postoperative care of patients with complications owing to unsafe surgical abortion in LICs such as Malawi to optimize patient outcomes and survival. ■

FIGURE 3
Wound appearance at discharge, 35 days following second surgery



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CRediT authorship contribution statement

Jennifer Draganchuk: Conceptualization, Writing – original draft, Writing – review & editing. **Stellah Ashley Lungu:** Conceptualization, Writing – review & editing. **Tulsi Patel:** Writing – review & editing. **Mtisunge Chang'ombe:** Supervision, Writing – review & editing.

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