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Gangrenous Uterus and Left Ovary Following Unsafe Induced Abortion: A Life-Threatening Complication Case Report

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Abstract

To document an uncommon occurrence of gangrene of the uterus linked to an unsafe abortion.We report the case of Ms. A.E, a 22-year-old lady who presented with bleeding per vaginal, fever, abdominal pain, nausea, vomiting and diarrhoea following an induced abortion. Clinical examination revealed the patient was in septic shock, generalised peritonitis, hypoactive bowel sound, foul-smelly vaginal discharge, positive cervical motion tenderness and a traumatised cervix. A preliminary diagnosis of septic abortion was made, with uterine perforation considered as a differential.The patient was resuscitated, and she subsequently had an exploratory laparotomy with subtotal hysterectomy and left oophorectomy on account of a gangrenous uterus and left ovary found intra-operative. Postoperatively, she developed a surgical site wound infection, which was managed with appropriate antibiotic therapy and daily wound care. The patient made a satisfactory recovery and received adequate counselling regarding her current reproductive status and long-term care. Unsafe abortion remains a significant public health concern, particularly in countries where access to safe and legal abortion services is restricted. Timely medical intervention is essential in managing complications arising from unsafe abortion, as these can pose serious, life-threatening risks.

Keywords: Unsafe abortion, gangrenous uterus, hysterectomy, case report

Case Presentation

Ms A.E, a 22-year-old nullipara college of education student who presented with a history of generalised abdominal pain, bleeding per vaginam for 1week, fever for three days, vomiting, and Passage of loose stool for 2days. Her symptoms began when she attempted termination of an unintended pregnancy at about 14weeks using 400mcg of misoprostol, which she passed sublingually and vaginally while at school. She bled for a day with associated lower abdominal pain. The next day, she repeated a pregnancy test, and the result was positive. Then, she took a herbal concoction made up of unripe pawpaw, salt and lemon. She had a scan done, which showed a viable pregnancy. Later, she started having lower abdominal pain, profuse bleeding and fever, for which she had an evacuation done at a private hospital. On the second day post-evacuation, the abdominal pain, bleeding and fever persisted, then she presented at another private facility, where a scan done showed retained product of conception. She had a second evacuation done. She was placed on oral antibiotics on both occasions. About two days

after the second evacuation, she started having foul-smelly vaginal discharge. She presented to a district hospital on account of the above; a pelvic scan was done, which showed a significant fluid collection in the pouch of Douglas. She was then referred to the National Hospital, Abuja, for expert care.

On examination at presentation, she was a young lady, ill-looking, moderately pale, febrile(38^0C), acyanosed, anicteric, and moderately dehydrated. Her respiratory rate was 24 cycles per minute, saturating at 96% in room air, equal chest excursion, vesicular breath sound on all lung fields. Her pulse rate was 120bpm, rapid, regular, full volume. Her blood pressure was 80/45mmHg. Heart sound 1 & 2 only, no murmur. Her abdomen was mildly distended, moved with respiration, with generalised tenderness and rebound tenderness. Deep palpation for the organs could not be done due to pain. Bowel sound was present and hypoactive, normal vulva, and normal vagina. Sterile speculum examination showed a traumatised cervix which appeared closed, no active bleeding, with foul-smelly discharge from the cervical os and at the posterior fornix. Bimanual examination revealed a bulky, tender uterus about 6weeks in size, and a closed cervix with positive cervical motion tenderness.

An initial assessment of septic abortion to rule out uterine perforation was entertained. She was admitted to the emergency room for resuscitation and stabilisation. Intravenous access was secured, and the results of the requested investigations showed:

- **Full blood count:** PCV- 23% (31.5-44), Hb- 8.9g/dl (10.5-14.7), WBC- 12.3 X 10^9/L (3.2-11) (Neutrophil- 85% (40-75), Lymphocyte- 25% (20-45), Eosinophil- 2% (1-6)), Platelet count- 163 X 10^9/L (150-400).
- **Electrolyte urea and creatinine:** Cl^- 101mmol/L (96-108), Na^+ 137mmol/L (135-150), K^+ 2.9mmol/L (3.5-5.3), Ca^{2+} 2.08mmol/L (2.10-2.55), $PO4^-$ 1.31mmol/L (1.45-1.78), Ur- 3.9mmol/L (2.5-6.4), Cr- 69mmol/L (44-100).
- **Serology:** Negative for hepatitis B, C and HIV.
- **Endocervical swab M/C/S:** conclusion; polymicrobial pelvic inflammatory disease sensitive to ampicillin, imipenem, gentamycin, amoxicillin/clavulanate, piperacillin/tazobactam, meropenem. Resistance to ciprofloxacin, ceftriaxone.
- **Abdomino-pelvic ultrasound scan:** showed a bulky uterus with regular outline, significant fluid in the pouch of Douglas and moderate ascites. Conclusion: Uterine perforation could not be ruled out.
- **Chest x-ray** shows no air under the diaphragm.
- **Plain abdominal x-ray, erect & supine:** ruled out intestinal obstruction and bowel perforation.

A nasogastric tube was also passed. She was started on intravenous fluid 0.9% normal saline. She was also placed on intravenous antibiotics: ceftriaxone, metronidazole. Intramuscular pentazocine and intravenous paracetamol were given for analgesia. Intramuscular promethazine was also added for the vomiting and side effects of nausea and vomiting associated with pentazocine. Based on the findings of the abdominal and pelvic examinations and the ultrasound scan, consent was obtained for an exploratory laparotomy plus or minus hysterectomy.

Hypokalaemia was corrected, and a repeat was 3.7mmol/L. Intra-operatively, there was purulent fluid of approximately 150ml, foul-smelly. The uterus was gangrenous globally with fibrinopurulent exudates; the area of perforation could not be identified. The left ovary was gangrenous with fibrinopurulent exudate and friable. The right ovary was healthy looking grossly. The bowel loops were grossly normal. Estimated blood loss was 500ml. She had copious peritoneal lavage, and an abdominal drain was left. She had a total of 3 units of blood transfused; 2 intra-operative and 1 in the immediate postoperative period.

Her immediate postoperative condition was satisfactory. She was on nil per os. Parenteral antibiotics: ceftriaxone and metronidazole were continued for another 72 hours. Adequate analgesia was maintained. At 24-hour postoperative review, her general condition and vital signs remained stable. Bowel sound had not returned. She was making adequate urine, and the abdominal drain output was 150ml of foul-smelly purulent effluent. She was continued on nil per os. Her packed cell volume on the 2nd postoperative day was 27% and she had no symptoms of anaemia. Bowel sound was normoactive, and she was commenced on graded oral sips; abdominal drain output was 100ml. Her urethral catheter was removed, and she was encouraged to ambulate. She was also commenced on haematinics. She was debriefed on the surgery, its extent and implications, and why it was necessary. She developed a mild fever of 37.6^{0}c on the 4th postoperative day. Abdominal drain output was less than 50ml on the third and fourth postoperative days and the drain was removed. The drain tract was covered with a sterile dressing.

On the fifth postoperative day, the dressing over the wound was stained with greenish exudate. Wound inspection was done, and the patient was noted to have developed a superficial surgical site wound infection. Sutures were removed, and a wound swab was taken for culture and sensitivity. The malaria parasite test was negative, and a repeat full blood count showed: WBC- 12.6x10^9/L, neutrophil 77%, PCV-27%, HB- 9.3g/dl. She was placed on oral Amoxicillin/clavulanic acid 1g twice daily based on the result of her endocervical swab report pending the result of the wound swab. Daily wound dressing was also commenced using normal saline and honey. These was chosen as honey has antimicrobial property, debriding effect, no cytotoxic effect on granulation tissues, promotes wound healing, can be used for a long duration and the wound had no necrotic tissues. Histopathology report of the hysterectomy specimen showed a necrotic uterus with products of conception and a non-viable ovary.

The result of wound swab culture and sensitivity yielded Pseudomonas aeruginosa sensitive to amikacin and piperacillin/tazobactam, resistant to ciprofloxacin, gentamicin, amoxicillin/clavulanic acid, and ceftazidime. She was commenced on intravenous Amikacin based on wound swab sensitivity report, her good renal function and financial constraint at 500mg twice daily dosing. She continued fesolate 200mg thrice daily, folate 5mg daily, and vitamin C was increased to 500mg daily. Daily wound dressing was continued with honey. Patient did well subsequently, and a repeat full blood count and electrolyte, urea and creatinine were essentially normal. She was co-managed with the clinical psychologist for psychotherapy. She was also counselled on cervical cancer screening as her cervix was still in situ. She was counselled that she can no longer conceive because she no longer has a uterus. She was also told

she has only one ovary now, from which ova can be retrieved for assisted conception with a surrogate mother if she desired a child with her genes. She was discharged home after 6weeks post-operation to continue outpatient wound dressing. Her wound had completely healed at her follow-up visit.

Discussion

Every individual has the right to decide freely and responsibly without discrimination, coercion and violence the number, spacing and timing of their children, and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health.[1] Access to legal, safe and comprehensive abortion care, including post-abortion care, is essential for the attainment of the highest possible level of sexual and reproductive health.[2] The restrictive abortion laws in Nigeria, unmet needs for contraceptives, widening poverty and illiteracy paved the way for unskilled personnel and quacks to dominate abortion services, making the practice quite unsafe.[3] An abortion is unsafe when it is carried out either by a person lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both.[2]

Between 2015 and 2019 globally, unintended pregnancy made up about 48% of all pregnancies. The rate of unintended pregnancy within the same period was 64 per 1000 women aged 15 to 49years, while in sub-Saharan Africa it was 91 per 1000 women aged 15 to 45years. About 50% of unintended pregnancies end in abortion, whether abortion is restricted or broadly legal.[4] About 2.4 to 14.6 per 1000 women age 15 to 44 years were treated for pregnancy termination complication in a study involving 26 countries between 2000 - 2012.[5] According to the data of 2012 in a Nigerian study, the estimated unintended pregnancy rate was 59 per 1,000 women aged 15-49 and Fifty-six percent of unintended pregnancies were resolved by abortion. The abortion rate was 33 per 1,000 women aged 15-49 years. About 212,000 women were treated for complications of unsafe abortion, representing a treatment rate of 5.6 per 1,000 women of reproductive age.[6] Ms. A.E. was managed for complications of unsafe abortion.

Abortions are dangerous or at least unsafe when they involve the ingestion of caustic substances or the use of untrained persons who use dangerous methods such as the insertion of foreign bodies or the use of traditional concoctions.[7] Ms. A.E. used misoprostol orally and vaginally, and later used an herbal concoction (unripe pawpaw, salt and lemon). Women with unwanted pregnancies who cannot access safe abortion are at risk of unsafe abortion. Other risk factors are: women living in low-income countries/poor women, limited access to effective contraception and the presence of barriers to safe abortion (restrictive laws, poor availability of services, high cost, stigma, conscientious objection of health-care providers).[7] Ms. A.E. was a 22-year-old single, college of education student who presented to our facility following an attempt at terminating an unintended pregnancy at about 14 weeks. Her risk for unsafe abortion was the restrictive laws in the country, which financially depended, not on any contraception.

Clostridium perfringens is ubiquitous and is found vaginally in approximately 1 - 10% of healthy women and usually does not cause a serious infection. Under the right conditions, it can

cause an endometritis leading to sepsis and possible gas gangrene of the uterus.[8] Subacute uterine inversion following induced abortion can also cause uterine gangrene.[9]

The critical signs and symptoms of complications from unsafe abortion that require immediate attention include abnormal vaginal bleeding, abdominal pain, shock, tenderness, rebound tenderness, rigid abdomen, and foul-smelly vaginal discharge. Unsafe abortion can be complicated by incomplete abortion, haemorrhage, infection, uterine perforation, symmetrical periphery gangrene, damage to the genital tract and internal organs, gangrenous uterus, peritonitis, bladder injury, and disseminated intravascular coagulopathy.[10–12] Ms. A.E. presented to us when she developed complications of unsafe abortion manifesting as bleeding per vaginal, fever, abdominal pain, nausea, vomiting and diarrhoea. On examination, she had fever, tachycardia, hypotension, abdominal swelling, generalised abdominal tenderness with rebound tenderness, hypoactive bowel sound, foul-smelly vaginal discharge, positive cervical motion tenderness and a traumatised cervix.

Patient with complication from unsafe abortion requires prompt resuscitation (fluid, blood and blood product, oxygen if indicated). Broad-spectrum antibiotics and anaerobic cover after taking a cervico-vaginal swab for culture should be provided. Ultrasonography and plain abdominal x-ray might show complications such as a perforated uterus and bowel perforation or gas gangrene of the uterus, respectively. Surgical evacuation of the uterus can be done after 6 hours of commencing intravenous antibiotic therapy if indicated. Laparotomy (with repair of perforation or hysterectomy) may be needed in endotoxic shock not responding to treatment, particularly due to gas gangrene, finding air in the abdominal cavity (evident by air/gas on abdominal x-ray) or signs of peritonitis.[11–13] Ms. A.E.'s investigation results showed anaemia, leucocytosis, pelvic scan showed regular uterine outline, and the chest x-ray did not show air under the diaphragm, and plain abdominal x-ray ruled out air in the abdominal cavity. Ms. A.E. was resuscitated and stabilised; she had an intravenous broad-spectrum antibiotic. She had an exploratory laparotomy with subtotal hysterectomy and left oophorectomy due to intra-operative finding of a gangrenous uterus and left ovary.

Ms. A.E. spent about six weeks on admission as her wound broke down and she developed sepsis. She was, however, managed, discharged and followed up till complete wound healing was achieved. Psychotherapy was also incorporated into her management.

Conclusion and Recommendations

In this case, the patient is a young dependent lady who lacked adequate information on the potential consequences of self-induced abortion. The restrictive abortion law further endangered her life. However, expedient medical and surgical intervention saved the day.

To achieve a favourable clinical outcome, early detection of sepsis in obstetrics and gynaecology patients is crucial and can be achieved with a simple scoring tool. Administering antibiotics based on local sensitivity patterns and providing follow-up for emotional support and

wound care is essential. Engaging psychologists after surgery and holding morbidity and mortality meetings to update protocols are important steps.

For policy reform, expanding access to safe abortion and enhancing contraception availability are vital. Training mid-level providers and establishing national post-abortion care standards are key. Strengthening data collection, conducting educational campaigns, and utilizing social media and short message service to share accurate information about contraception and safe abortion can help prevent complication, reduce stigma and increase awareness.

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