

## CASE REPORT

### Obstetrics

## A rare cause of severe oligohydramnios in the third trimester secondary to uterine perforation due to unsafe abortion: A case report

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### Abstract

**Background:** Uterine perforation following an unsafe abortion is rare but can lead to severe maternal morbidity and mortality.

**Case presentation:** A 28-year-old para 0+1 at 34 weeks gestation, presented with a history of generalized abdominal pain and reduced fetal movements for one week. Ultrasound revealed severe oligohydramnios; however, she did not have a history of liquor drainage. She was scheduled for emergency cesarean delivery. Intraoperatively, approximately 300mls of free clear fluid was noted. A live female infant weighing 2200 grams and with Apgar scores of 9, 10, and 10 at 1, 5, and 10 minutes was extracted.

Perforation at the fundus of the uterus, which was probably due to unsafe abortion, was noted. The edges of the uterine perforation were refreshed and closed in two layers. Her postoperative period was uneventful, and the mother and the neonate were discharged home.

**Conclusion:** A high suspicion index should be indicated in patients presenting with isolated oligohydramnios with a previous history of unsafe abortion and uterine perforation, particularly in regions where unsafe abortion is common.

**Keywords:** abortion, oligohydramnios, unsafe abortion, uterine perforation

### Introduction

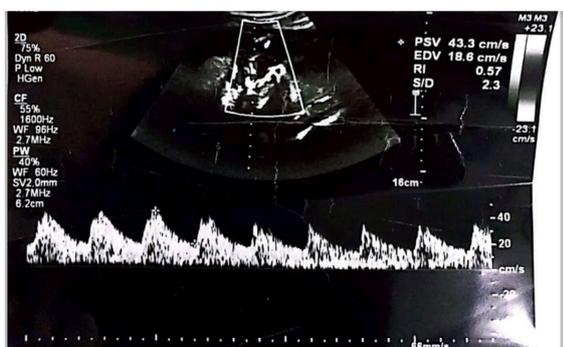
Oligohydramnios is defined as a decreased amniotic fluid volume that is less than the minimum expected for gestational age (1). Diagnosis is usually made by an objective assessment of amniotic fluid index (AFI)  $\leq$  5cm or single deepest pocket (SDP)  $<$  2cm by ultrasound (1). Amniotic fluid is crucial for fetal development. Pregnancies complicated by oligohydramnios are at increased risk of pulmonary hypoplasia, particularly mid second-trimester oligohydramnios, fetal deformation, and umbilical cord compression (2). Fetal outcome generally depends on the underlying cause, severity, gestational age of occurrence, and duration of oligohydramnios. Some adverse perinatal

outcomes associated with pregnancies complicated by oligohydramnios include stillbirth, low birth weight, preterm delivery, and neonatal death (3). The World Health Organization defines unsafe abortion as a procedure performed by an unskilled or untrained provider using unsafe or less-studied methods to terminate a pregnancy (4). It is estimated that every eight minutes, a woman in low- and middle-income countries (LMICs) dies of complications related to unsafe abortion (5). This is partly because most LMICs, especially in sub-Saharan African countries, have very restrictive abortion laws, no or limited access to reproductive services, and a high rate of unmet family planning needs (6). This is a case of unsafe abortion that resulted in uterine perforation, which was not

recognized initially. Three years later, the patient presented with reduced fetal movements, maternal ascites, and severe oligohydramnios.

### Case presentation

A 28-year-old para 0+1 at 34 weeks of gestation, presented with a history of generalized abdominal pain and reduced fetal movements for one week. The patient did not report vaginal bleeding or drainage of liquor. All her antenatal visits were unremarkable. An obstetric ultrasound performed at a referral facility revealed maternal ascites, severe oligohydramnios (AFI 1.87cm) with a biophysical profile of 4/8 (liquor and movement 0), and umbilical artery resistive index of 0.57. The placenta was posterior, and no fetal anomaly was noted (Figure 1). She did not have a history of contraception use. Her past medical, surgical, and family social histories were unremarkable. Her vital signs were unremarkable. She had mild abdominal tenderness. The fetal heart rate was 147 beats per minute. On speculum examination, liquor drainage was not noted. Her laboratory investigations were unremarkable. An impression of primigravida at 34 weeks 3 days with severe oligohydramnios and nonreassuring fetal status was made. The patient was admitted to the labor ward and was started on dexamethasone 6mg twice daily for two days. On the third day of admission, she was scheduled for an emergency cesarean delivery.



**Figure 1:** Umbilical artery Doppler studies.

Intraoperatively, approximately 300mls of free clear fluid was noted after opening the peritoneum. A live female infant with a birth weight of 2200 grams and Apgar scores of 9,10, and 10 at 1, 5, and 10 minutes was extracted. After the uterine incision was closed, a uterine opening approximately 2 \* 2cm with fibrotic edges was noted at the fundus, which was oozing blood into the peritoneal cavity. On further examination, blood was noted coming from the placental bed. The opening was partially covered by the left fallopian tube fimbriae and infundibulum (Figure 2). The fallopian tube was released slowly with blunt dissection. The index

finger was introduced slowly and could go up to the uterine cavity (Figure 3). The edges of the uterine perforation were refreshed and closed in two layers, and hemostasis was achieved. On further inquiry postoperatively, the patient reported that she had a clandestine abortion three years before her pregnancy that probably led to uterine perforation, which was not detected at that time. Her postoperative period was uneventful, and the mother and neonate were discharged on the third postoperative day. Her postpartum period was uneventful.

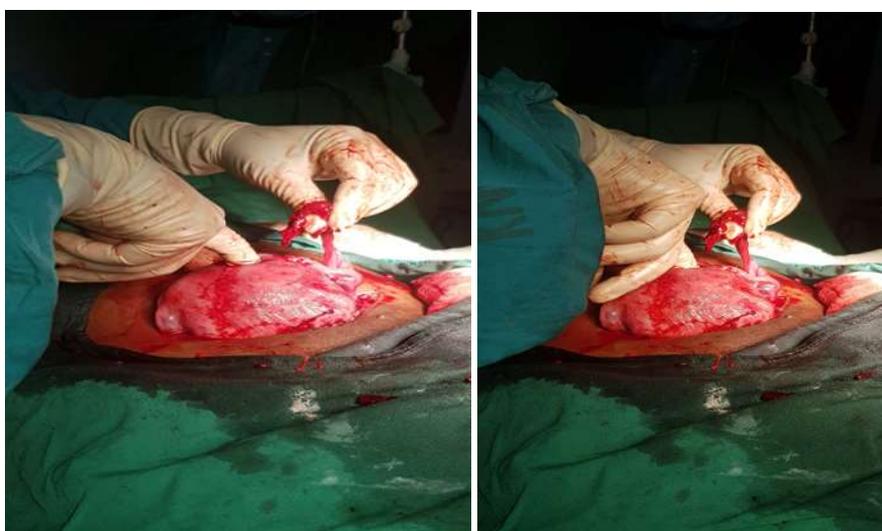
### Discussion

More than four million unsafe abortions are reported annually in Africa. Two-thirds of unintended pregnancies in LMICs occur in women who are not using any form of contraception (5). In Kenya, contraception access and use have increased over the years; however, there is still an unmet need for contraception. According to the Kenya Demographic and Health Survey (KDHS) 2014, the unmet need for contraception among married of reproductive age was estimated to be about 18% (7). Universal access to contraception can reduce unsafe abortion and the complications associated with it. Uterine and gut perforation are among the major complications of unsafe abortion. The incidence of uterine perforation reported in the literature is approximately 0.4 to 15 in 1,000 abortions, and results in high maternal morbidity and mortality (8). In some instances, uterine perforation following an unsafe abortion is not recognized early, which may lead to severe adverse maternal outcomes.

Here, the patient may have sustained uterine perforation during unsafe abortion which did not completely close and was incidentally discovered during cesarean delivery. This may have led to amniocele and rupture of the amniotic sac followed by extravasation of amniotic fluid into the peritoneal cavity causing oligohydramnios, and maternal ascites. The amniotic fluid in the peritoneal cavity caused an inflammatory reaction causing mild abdominal tenderness. The patient was clinically stable and there was no evidence of vaginal or intraabdominal bleeding noted during cesarean delivery from the uterine perforation site which rules out uterine rupture as a cause of oligohydramnios. Similar cases of oligohydramnios and maternal ascites without drainage of liquor and without known cause have been reported but were later noted to be due to uterine rupture noted during emergency cesarean delivery (9,10).



**Figure 2:** A and B: The left fallopian fimbriae partially covered the uterine perforation (arrow).



**Figure 3:** A: Attempts to introduce the index finger of the surgeon into the uterine perforation (arrow); B: shows the Index finger going into the uterine cavity (arrow).

### Conclusion

A high suspicion index should be indicated in patients presenting with isolated oligohydramnios with a previous history of unsafe abortion and uterine perforation, especially in regions where unsafe abortion is common.

### Consent for publication

Informed consent for publication was obtained from the patient.

### Acknowledgment

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### Declarations

### Conflict of interests

The authors declare no conflicts of interest.

### Funding

None

### References

1. Rabie N, Magann E, Steelman S, Ounpraseuth S. Oligohydramnios in complicated and uncomplicated pregnancy: a systematic review and meta-analysis. *Ultrasound Obstet Gynecol.* 2017;49(4):442-449. doi:10.1002/uog.15929
2. Shipp TD, Bromley B, Pauker S, Frigoletto FD Jr, Benacerraf BR. Outcome of singleton pregnancies with severe oligohydramnios in the second and third trimesters. *Ultrasound Obstet Gynecol.* 1996;7(2):108-113. doi:10.1046/j.1469-0705.1996.07020108.x
3. Figueroa L, McClure EM, Swanson J, et al.

- Oligohydramnios: a prospective study of fetal, neonatal and maternal outcomes in low-middle income countries. *Reprod Health*. 2020;17(1):19. Published 2020 Jan 30. doi:10.1186/s12978-020-0854-y
4. World Health Organization. (2013). Annual technical report: department of reproductive health and research, including UNDP/UNFPA/WHO/World Bank special programme of research, development and research training in human reproduction (HRP). World Health Organization. Accessed August 16, 2023. <https://iris.who.int/handle/10665/84992>
  5. Haddad LB, Nour NM. Unsafe abortion: unnecessary maternal mortality. *Rev Obstet Gynecol*. 2009;2(2):122–6
  6. Håkansson M, Super S, Oguttu M, Makenzius M. Social judgments on abortion and contraceptive use: a mixed methods study among secondary school teachers and student peer-counsellors in western Kenya. *BMC Public Health*. 2020;20(1):493. Published 2020 Apr 15. doi:10.1186/s12889-020-08578-9
  7. Kenya National Bureau of Statistics; Ministry of Health Kenya; National AIDS Control Council/Kenya; Kenya Medical Research Institute; National Council for Population and Development Kenya. Kenya Demographic and Health Survey 2014. 2015. Accessed August 16, 2023. <https://dhsprogram.com/pubs/pdf/fr308/fr308.pdf>
  8. Sama CB, Aminde LN, Angwafo FF 3rd. Clandestine abortion causing uterine perforation and bowel infarction in a rural area: a case report and brief review. *BMC Res Notes*. 2016;9:98. Published 2016 Feb 16. doi:10.1186/s13104-016-1926-5
  9. Tews G, Ebner T, Yaman C, Hartl J. Maternal ascites into the abdomen in a patient with status post adnexectomy and uterine rupture. *Acta Obstet Gynecol Scand*. 2001;80(5):474-475
  10. Yang L, Zhang B, Zhao Y, Xie C. Uterine wall rupture in a primigravid patient with oligohydramnios as the first manifestation: A case report. *Medicine (Baltimore)*. 2021;100(2):e24051. doi:10.1097/MD.00000000000024051