Uterovaginal prolapse in a primigravida presenting in active first stage of labor: a case report

Bezza Kedida Dabi*, Demisew Amenu Sori and Fanta Asefa Disasa

Abstract

Background: Uterovaginal prolapse is the descent of the uterus and vagina down the birth canal toward the introitus. The occurrence of uterovaginal prolapse in a primigravida is very rare. It can cause preterm labor, fetal demise, spontaneous abortion, postpartum hemorrhage, maternal urinary complications, sepsis, and death. This case report presents the rare occurrence of uterovaginal prolapse in a primigravida woman with no major risk factors identified for prolapse, who presented in active first stage of labor and delivered vaginally.

Case presentation: A 30-year-old Oromo primigravida woman who did not remember her last normal menstrual period but claimed amenorrhea of 9 months duration presented with the urge to bear down of 12 hours duration and passage of liquor of 8 hours duration. She was referred from the local health center to Jimma Medical Center with a diagnosis of prolonged labor. At presentation, she was in active first stage of labor with cervix 5–6 cm and fetal heartbeat was negative. She was followed for the progress of labor, and 4 hours after admission to the labor ward, she delivered a freshly dead male neonate weighing 3000 g. Her postpartum period was uneventful, and she was discharged on her third postpartum day and referred after 6 weeks to the outpatient department.

Conclusion: Uterovaginal prolapse occurring in primigravida and during labor at first recognition is very rare, with congenital weakness being a possible underlying pathology. Management of uterovaginal prolapse during labor should be individualized on the basis of fetal condition and the severity of prolapse. For a patient with pelvic organ prolapse in labor, expectant management is a good option when there is no severe edema resulting in obstructed labor, as in our case, where the patient delivered vaginally and the prolapse resolved postpartum.

Keywords: Uterovaginal prolapse, Third-trimester pregnancy, Primigravida, Active first stage of labor, Case report, Ethiopia

Background

Uterine prolapse during pregnancy is a rare condition, with an incidence of 1 per 10,000 to 1 per 15,000 deliveries [1, 2]. It can result in preterm labor, spontaneous abortion, fetal demise, maternal urinary complications, maternal sepsis, and death [1]. Most of the reported patients were managed conservatively during pregnancy by reducing the prolapse followed by rest in the Trendelenburg position [3]. The rate of adverse pregnancy outcomes has decreased dramatically since the past century, probably due to changes in obstetric practice and advances in neonatology. The overall fetal mortality rate in women with pelvic organ prolapse (POP) in pregnancy was 22% in 1941 [4]. However, eight perinatal deaths have been reported since 1990, all from developing countries [4]. We report a case of uterovaginal prolapse in a primigravida woman, in her third trimester of pregnancy, presenting in active first stage of labor.

*Correspondence: Bezzakedida2@gmail.com
Department of Obstetrics and Gynecology, Jimma Medical Center, Jimma University, Jimma, Ethiopia
**Case presentation**

A 30-year-old Oromo primigravida woman who did not remember her last normal menstrual period, but claimed amenorrhea of 9 months, presented to Jimma Medical Center with an urge to bear down of 12 hours duration and passage of liquor of 8 hours duration. She received antenatal care at a local health center two times and was referred from there with a diagnosis of prolonged labor. She also complained of decreased fetal movement of 2 days duration and prolapsed mass per vagina while she was in an ambulance on the way to the Jimma Medical Center. She had a history of small prolapsed mass per vagina before pregnancy when she was walking, which reduced when she lay down, but this did not worry her and it disappeared during pregnancy. Her personal, familial, and medical histories were unremarkable. The pregnancy was unplanned but wanted and supported.

Upon arrival, she was in labor pain, and her vital signs were blood pressure 120/80 mmHg, pulse rate 90 beats per minute, respiratory rate 22 breaths per minute, and body temperature 36.5 °C. Pertinent findings were on the abdomen: 26-week-sized gravid uterus, fundus occupied by soft bulky mass that was breech. The lie was longitudinal, and the presentation was cephalic. Fetal heart sounds were absent on auscultation with Pinard fetoscope and confirmed by ultrasound. She had three contractions in 10 minutes lasting for 40–60 seconds. Ultrasound revealed a singleton intrauterine pregnancy; the fetus was 38 weeks, the placenta was fundal anterior, and no gross congenital anomaly was seen. Pelvic examination showed a prolapsed vaginal wall with its rugae visible on the anterior vaginal wall. Edematous, irreducible cervicouterine prolapse and fetal head protruding through prolapsed cervix were visible outside the vagina. Cervix was 5–6 cm dilated, edematous, and lacerated at 2 and 10 o’clock position, but it was not bleeding (Fig. 1). There was grade 3 meconium-stained amniotic fluid.

Owing to the combination of third-trimester pregnancy, intrauterine fetal death, active first stage of labor, and uterovaginal prolapse, she was tested for blood group and Rh (A⁺) and hematocrit (44%), and then she was followed for the progress of labor. She entered
the second stage 3 hours after admission to the labor ward, was encouraged to push, and delivered a freshly
dead male neonate weighing 3000 g after 1 hour in the
second stage of labor. There was a cervical tear at 10, 2
o’clock, but there was no significant bleeding and it was
stopped by compression with a pack. Upon examination,
no gross fetal anomaly was seen, placental weight was
600 g, and cord length was 50 cm with two arteries and
one vein. After delivery of the placenta, the patient was
put in the Trendelenburg position, prolapse was elevated,
and ice packs were applied to decrease edema. The size
of the prolapse gradually reduced, the edema subsided,
and manual reduction of the prolapse was performed on
the first postpartum day. The uterus was involuted; cer-
vix was at the level of introitus. She was discharged on
the third postpartum day and scheduled for follow-up at
6 weeks. The patient was contacted on phone at 6 weeks
and 3 months postpartum, but she could not come back
to hospital for personal reasons; she claimed she has no
prolapsed mass through the vagina.

Discussion
This case report presents a rare case of uterovaginal
prolapse in primigravida presenting as an emergency in
active first stage of labor after amenorrhea of 9 months
duration. Uterovaginal prolapse is common in women
who are multiparous and of older age; however, it rarely
occurs during pregnancy and in primigravida women [5,
6]. The cause of uterine prolapse during pregnancy may
be multifactorial, including multiparty, age, malnutrition,
race, vaginal delivery, short interval between consecutive
pregnancies, physiologic change of pregnancy causing
cervical elongations, and previous history of prolapse [1,
2, 7–12]. Pelvic organ prolapse (POP) presenting before
pregnancy is less common and resolves during preg-
nancy, but the acute onset of POP in pregnancy is more
common [7]. Acute onset of POP during pregnancy is
often first recognized during third-trimester pregnancy
[7, 12].

Our patient had a history of small prolapsed mass
through the vagina before pregnancy, which disappeared
during pregnancy and acutely appeared during labor. Our
patient probably had asymptomatic preexisting pro-
lapse that was aggravated by the pregnancy and course of
 labor. Increased cortisol and progesterone during preg-
nancy and increased intraabdominal pressure with labor
may have contributed to uterovaginal prolapse. Acute
onset of POP most frequently occurs in the second tri-
 muster of pregnancy. However, it was first recognized
in labor in some case reports [4], similar to our patient’s
presentation. Prolapse that exists before pregnancy usu-
ally resolves by the end of second trimester [11], which
is similar to our patient’s presentation. POP in primigravida
(Table 1) is a rare event [1, 5, 6, 8]. A small degree of pro-
lapse is normal in nulliparous women, and the degree of
prolapse increases with parturition [13], as it occurred in
our patient. A small case–control study comparing nul-
 liparous with primigravida showed that pregnant women
have more vaginal prolapse [13]; another study reported
younger women with genital prolapse having lower col-
lagen concentration than age-matched controls [14].
Our patient is young, and it is possible that she has lower

| Study                          | Year | Age | Parity | Mode of delivery | Birth weight (g) | Complications reported | Follow-up       |
|--------------------------------|------|-----|--------|------------------|------------------|-----------------------|-----------------|
| Ghose et al. [8]               | 2012 | 26  | Primigravida | Spont.Del.*       | 2100             | None reported          | NA              |
| Zeng et al. [7]                | 2018 | 27  | G3P2    | Cesarean section | 2480             | None reported          | NA              |
| Zeng et al. [7]                | 2018 | 33  | G2P1    | Spont.Del.*      | 2680             | None reported          | POP resolved    |
| Cingillioglu et al. [10]       | 2010 | 29  | G3P2    | Cesarean section | 2960             | None reported          | POP resolved    |
| Meydanli et al. [9]            | 2006 | 30  | G6P5    | Cesarean section | 2300             | Cesarean hysterectomy, cervical dystocia | No vaginal vault prolapse |
| Mohamed-Suphan and Ng [3]    | 2012 | 26  | G4P2    | Cesarean section | 3100             | None reported          | POP persisted   |
| Kim et al. [1]                 | 2016 | 32  | Primigravida | Spont.Del.*       | 2670             | None reported          | POP resolved    |
| Saha et al. [2]                | 2015 | 28  | G4P3    | Expelled abortus | NA               | Urine retention, abortion | POP resolved    |
| Yousaf et al. [12]             | 2011 | 35  | G2P1    | Spont.Del.*      | 2400             | Cervical laceration, hydronephrosis | POP persisted   |
| Kart et al. [15]               | 2010 | 21  | G4P3    | Spont.Del.*      | 860              | Preterm delivery       | POP persisted   |
| Kart et al. [15]               | 2010 | 36  | G3P2    | Spont.Del.*      | 3300             | None reported          | POP persisted   |
| Buyukbayrak et al. [6]         | 2010 | 19  | Primigravida | Spont.Del.*       | 3200             | None reported          | POP resolved    |
| Ishida et al. [5]              | 2014 | 31  | Primigravida | Cesarean section | 3230             | Cervical edema         | POP resolved    |
| Our patient                    | 2012 | 30  | Primigravida | Spont.Del.*       | 3000             | Cervical laceration    | NA              |

Spont.Del.*, spontaneous delivery; NA, not applicable
collagen concentration, although we did not take a tissue biopsy to assess collagen concentration. The fact that uterine prolapse does occur in primigravida without pre-existing descent seems to suggest that congenital weakness in pelvic support structure could be an underlying pathology.

The main antepartum complication in pregnant women with prolapse is preterm labor [11]. In our patient, fundal height was 26 weeks sized, and this was due to a significantly prolapsed uterus (Fig. 1). Our patient also claimed amenorrhea of 9 months duration, fetus was 38 weeks, and the birth outcome was 3000 g freshly dead male neonate (Table 1). Fetal death and maternal morbidity are rarely reported complications [11]. A systematic review reported only four fetal deaths, and all of them were from developing countries [4]. Even though there was fetal death in our patient, respiratory failure secondary to meconium aspiration syndrome is a possible cofactor as there was grade 3 meconium-stained liquor. Intrapartum complications of uterovaginal prolapse include the inability of cervical dilatation, cervical dystocia due to edema, cervical laceration, and obstructed labor with the possible risk of uterine rupture [3]. Among the above complications, our patient had cervical lacerations at 2 and 10 o’clock (Fig. 1).

Management of the prolapse should be individualized, and the managing obstetrician must have possible complications in mind. Bed rest in the Trendelenburg position should be advised to decrease edema and displacement of the uterus [11]. Good genital hygiene is imperative, and local antiseptics should be applied in the event of ulcerations or infected cervix [11]. Conservative management during pregnancy is the treatment of choice because the prolapse usually resolves spontaneously following delivery [11]. Conservative management includes genital hygiene and bed rest in slt Trendelenburg position [15]. POP can be successfully managed by a pessary throughout the pregnancy until the onset of labor [3, 4, 6]. Women with severe prolapse are at increased risk of cesarean section due to obstructed labor; however, vaginal delivery is not contraindicated [4]. Our patient had a successful vaginal delivery (Table 1). A primary cesarean section is an option in case of severe POP with acute onset during pregnancy as it seems to be protective for prolapse after delivery [4].

Conclusion

Uterovaginal prolapse occurring in primigravida and during labor at first recognition is very rare, with congenital weakness being a possible underlying pathology. Management of uterovaginal prolapse during labor should be individualized on the basis of fetal condition and the severity of prolapse. For a patient with pelvic organ prolapse in labor, expectant management is a good option when there is no severe edema resulting in obstructed labor, as in our case where the patient delivered vaginally and the prolapse resolved postpartum.

Acknowledgements

Not applicable.

Authors’ contributions

BKD: Wrote the whole manuscript, and reviewed different literatures. BKD is also primarily involved in management of this patient. DAS Provided scientific update, revised and rearranged draft of manuscript. FAD revised manuscript and provided additional references. All authors read and approved the final manuscript.

Funding

No funding sources.

Availability of data and materials

Data sharing does not apply to this article as no datasets were generated or analyzed during the current study.

Declarations

Ethics approval and consent to participate

An ethical clearance letter was obtained from the institutional review board (IRB) of Jimma University, Institute of Health. A permission letter was obtained from the department of Gynecology and Obstetrics and submitted to Jimma University Medical Center.

Consent for publication

Informed written consent was obtained from the patient for publication of this case report and any accompanying images. A copy of written consent is available for review by the Editor-in-Chief of this journal.

Competing interests

The authors of this case report declare that they have no competing interests.

Received: 11 October 2021 Accepted: 2 March 2022
Published online: 08 April 2022

References

1. Kim JC, Jang SA, Lee JY, Yun NR, Lee S-H, Hwang SO. Uterine prolapse in a primigravid woman. Obstet Gynecol Sci. 2016;59(3):241.
2. Saha DK, Suri V, Srikar P. Pregnancy with irreducible utero-vaginal prolapse. J Clin Diagnostic Res. 2015;9(9):OD01–2.
3. Mohamed-Suphan NB, Ng RW. Uterine prolapse complicating pregnancy and labor: a case report and literature review. Int Urogynecol J. 2012;23(5):647–50.
4. Rusay Z, Bombieri L, Freeman RM. Procidentia in pregnancy: a systematic review and recommendations for practice. Int Urogynecol J Pelvic Floor Dysfunct. 2015;26(8):1103–9.
5. Ishida H, Takahashi K, Kurachi H. Uterine prolapse during late pregnancy in a nulliparous woman. Int Urogynecol J. 2014;2390308(2390308):1739–40.
6. Buyukbayrak EE, et al. Successful management of uterine prolapse during pregnancy with vaginal pessary: a case report. J Turk German Gynecol Assoc. 2010;11(2):105–7.
7. Zeng C, Yang F, Wu C, Zhu J, Guan X, Liu J. Uterine prolapse in pregnancy: two cases report and literature review. Case Rep Obstet Gynecol. 2018;2018:1–5.
8. Ghose S, Samal S, Coumary S, Pallavee P, Jenkins A. Utero-vaginal prolapse in primigravida: a case report. Int J Reprod Contracept Obstet Gynecol. 2012;1(1):50–1.
9. Meydanli MM, Üstün Y, Yalcin OT. Pelvic organ prolapse complicating third trimester pregnancy: a case report. Gynecol Obstet Invest. 2006;61(3):133–4.
10. Cingillioglu B, Kulhan M, Yildirim Y. Extensive uterine prolapse during active labor: a case report. Int Urogynecol J. 2010;21(11):1433–4.
11. Tsikouras P, Dafopoulos A, Vrachnis N, Ilidromiti Z, Bouchlariotou S, Pinidis P, et al. Uterine prolapse in pregnancy: risk factors, complications and management. J Matern Neonatal Med. 2014;27(3):297–302.
12. Yousaf S, Haq B, Rana T. Extensive uroterovaginal prolapse during labor. J Obstet Gynaecol Res. 2011;37(3):264–6.
13. Martin L. Pelvic floor dysfunction in nulliparous women: a comparison with parous women. 2006.(5).
14. Söderberg MW, Falconer C, Bystrom B, Malmström A, Ekman G. Young women with genital prolapse have a low collagen concentration. Acta Obstet Gynecol Scand. 2004;83(12):1193–8.
15. Kart C, Aran T, Guven S. Stage IV C prolapse in pregnancy rates of surgical delivery at a university hospital in Slovenia, 2000–2009. Int J Gynecol Obstet. 2010;112(2):142–3. https://doi.org/10.1016/j.ijgo.2010.10.006.

Publisher’s Note
Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.