Case Report
Obstet Gynecol Sci 2016;59(3):241-244
http://dx.doi.org/10.5468/ogs.2016.59.3.241
pISSN 2287-8572 · eISSN 2287-8580

Obstetrics & Gynecology Science

Uterine prolapse in a primigravid woman

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Uterine prolapse during pregnancy is an uncommon condition. It can cause preterm labor, spontaneous abortion, fetal demise, maternal urinary complication, maternal sepsis and death. We report the case of uterine prolapse in a 32-year-old healthy primigravid woman. She had no risk factors associated with uterine prolapse. She was conservatively treated, resulting in a successful vaginal delivery. This report is a very rare case of uterine prolapse in a young healthy primigravid woman, resulting in a successful vaginal delivery.

Keywords: Pregnancy; Uterine prolapse

Introduction

Uterine prolapse is a common condition in elderly females. However, uterine prolapse during pregnancy is rare, with an incidence of 1 per 10,000 to 15,000 deliveries [1]. It can cause preterm labor, spontaneous abortion, fetal demise, maternal urinary complications, maternal sepsis, and death [2]. Only a few cases of uterine prolapse during pregnancy have been reported and there is no consensus on the efficient management. Therefore, we report a very rare case of uterine prolapse in a young healthy primigravid female who was conservatively treated, resulting in a successful vaginal delivery with literature review.

Case report

A 32-year-old pregnant female, gravida 1, para 0, was referred to the obstetric department for tertiary care at 28+0 weeks of gestation with uterine prolapse. She complained of intermittent vaginal blood spotting after voiding that began 12 days (26+2 weeks of gestation) earlier. Her height and body weight were 157 cm and 55 kg, respectively, and her body mass index was 22.4. Her medical and obstetric history was unremarkable regarding pelvic trauma, prolapse, or stress incontinence. She had no surgical history or family history of connective tissue disease.

However, during the current pregnancy she had needed urinary catheterization several times because of voiding difficulty and urinary retention early in the first trimester. At that time, examination by the local obstetrician revealed no abnormality of her uterus and cervix.

She complained no discomfort including increased urine frequency, dysuria and residual urine sensation. A second-stage uterus prolapse was diagnosed at 27+2 weeks of gestation in the local clinic. Pelvic examination revealed a second-stage prolapse, with point C as the leading edge according to the pelvic organ prolapse quantification staging system uterine prolapse (Aa -1.0, Ba -1.0, C -0.5, gh 2.0, pb 3.0, tvl 9.0, Ap -1.0, Bp -0.5, D -2.0). The eroded cervix was descended to the level of the vaginal introitus. There was no evidence of cystocele or rectocele.

No fetal abnormality was identified by ultrasonography. Es-

Received: 2015.9.2. Revised: 2015.10.24. Accepted: 2015.10.28.
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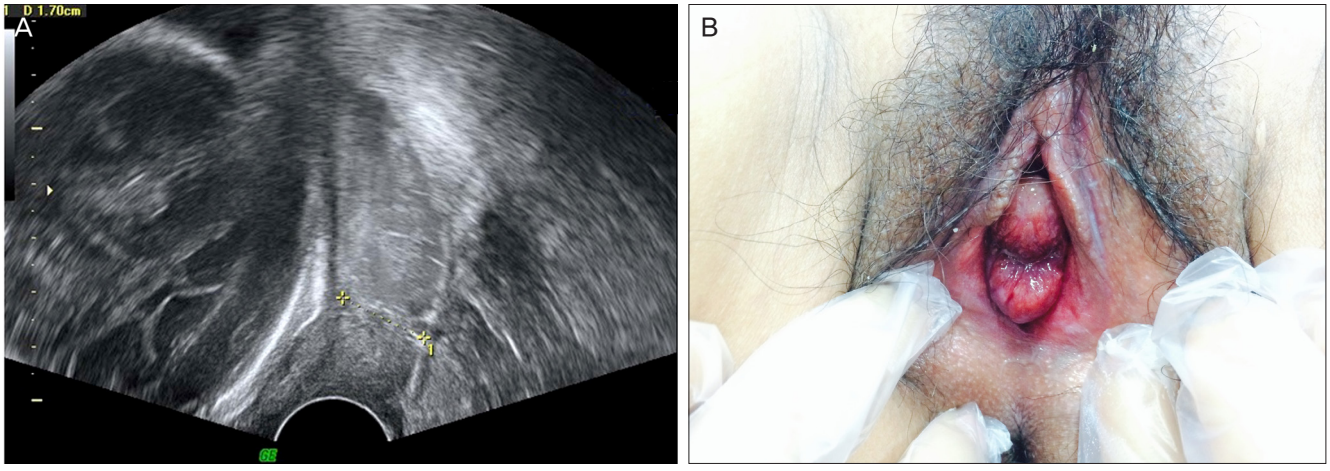

Fig. 1. (A) Ultrasonography revealed a short cervix with 17-mm length and a T-shape. (B) Physical exams show second-degree uterine prolapse. The eroded cervix projected through the vaginal introitus.

timated fetal weight was 1,174 g. No uterine mass or pelvic mass was detected. Sonographic examination revealed a short cervix with 17 mm length and a T-shape (Fig. 1A). A progesterone capsule, Uterogestan 200 mg (Besins Healthcare, Bangkok, Thailand) was administrated vaginally daily.

Two weeks later (30+0 weeks of gestation), she was admitted to our hospital again because of regular uterine contractions. Pelvic examination revealed an enlarged and edematous uterine cervix and a second-degree uterine prolapse. The eroded cervix was projecting near the vaginal introitus (Fig. 1B). The cervical orifice was closed. Sonographic examination revealed a more shortened cervix with 10-mm length and a T-shape. Estimated fetal weight was 1,470 g. Acute onset of preterm uterine contractions necessitated tocolytic therapy with a favorable outcome. Corticosteroids were also administered. We recommended bed rest in a slight Trendelenburg position. Vaginal culture at admission revealed mycoplasma infection. She was treated with a single dose of azithromycin 1,000 mg. Follow-up culture revealed no evidence of infection.

At 34+0 weeks of gestation, uterine contractions disappeared without tocolytics. She was discharged. Three weeks later (37+0 weeks of gestation), she was admitted to our hospital again because of regular uterine contractions. The cervix was still prolapsed at the same level and the cervical orifice was opened to about 3 cm width. Latency period to delivery was 5 hours and estimated blood loss was about 400 mL, which was not different with them of normal pregnancy. A live healthy male neonate of 2,670 g was delivered after a 6-hour labor. Apgar scores were 10 at 1 minute and 10 at 5 minutes.

The prolapsed uterus was manually reduced. The postnatal period was uneventful. Two days after delivery, she was discharged in good health and with complete resolution of the cervical prolapse. At follow-up examination 1 and 6 months postpartum, no sign of uterine prolapse was evident.

Discussion

Uterine prolapse during pregnancy most frequently occurs in multiparous women [3]. This report describes a very rare case of uterine prolapse in a nulliparous patient. Besides pregnancy, the patient had none of the known risk factors for uterine prolapse such as uterine mass, obesity, or maternal connective tissue disorder.

A PubMed keyword search for "uterine prolapse," "procidentia," or "pelvic organ prolapse" with "pregnancy" revealed very few reports of uterine prolapse newly diagnosed during pregnancy. In particular, less than 20 cases (only 18 cases) have been reported in the English-language literature since 2000 (Table 1) [1-14]. This is the third reported case of a uterine prolapse in a nulliparous female patient. The first was reported in Turkey and the second was in Japan [4,5]. Also, this is the first case in which the pregnancy ended in a vaginal delivery in a primigravid woman.

Risk factors for uterine prolapse are multifactorial. Both congenital and acquired predisposing factors have been identified. Congenital factors include congenital weaknesses in the pelvic floor such as collagen defects (e.g., Marfan's syndrome,

Table 1. Characteristics of cases diagnosed uterine prolapse first during pregnancy and reported in English literature since 2000

Study year	Age (yr)	G/P	Single/ twin	GA at diagnosis (wk)	POP-Q stage	Treatment during pregnancy	GA at delivery (wk)	Delivery method	Reason of CS	Birth-weight (g)	Tretment after delivery	Postpartum status
2002 [1]	36	G5P2	Single	10	NA	None	38	CS	Cervical dystocia	NA	NA	NA
2002 [1]	33	G5P4	Single	26	NA	Pessary	39	CS	NA	NA	None	Recovery
2005 [3]	42	G4P2	Single	10	3	None	41	CS	Fetal distress	3,150	None	Recovery
2006 [8]	30	G6P5	Single	35	3	None	35	CS	Cervical dystocia	2,300	Hysterectomy following CS	Recovery
2007 [9]	35	G3P2	Single	39	3	None	39	CS	Cervical dystocia	NA	None	Recovery
2007 [2]	37	G3P0	Single	31	3	None	33	CS	Preterm labor	1,900	None	Recovery
2007 [10]	25	G4P2	Single	12	3	None	39	CS	Maternal request	3,050	None	Recovery
2008 [11]	33	NA	Single	NA	NA	NA	36	NA	NA	NA	Topical magnesium sulfate	Recovery
2009 [12]	19	G2P1	Single	36	3	None	36	CS	Cervical dystocia	3,250	None	Recovery
2011 [13]	21	G4P3	Single	10	4	None	26	VD	NA	860	NA	NA
2010 [14]	29	G3P2	Single	29	4	None	37	CS	Cervical dystocia	2,960	None	Recovery
2010 [4]	19	G1P0	Single	16	4	Pessary	38	VD	NA	3,200	None	Recovery
2012 [7]	26	G4P2	Single	12	NA	Pessary	40	CS	Cervical dystocia	3,100	Pessary	Stage 2
2012 [6]	33	G3P2	Twin	33	4	None	34	CS	Preterm labor, fetal distress	1,800 /2,000	Hysteropexy following CS	Recovery
2014 [5]	31	G1P0	Single	38	3	None	38	CS	Cervical dystocia	3,230	None	Recovery

G/P, gravida/para; GA, gestational age; POP-Q, pelvic organ prolapse quantification system; CS, cesarean section; NA, not available; VD, vaginal delivery.

Ehlers-Danlos syndrome), abnormal pelvic structure, or a large uterine or ovarian mass resulting in increased intra-abdominal pressure. Obstetrical factors include previous pregnancy, vaginal instrumental delivery, young age at first delivery, previous prolonged second stage of labor, and previous neonatal birthweight. Also, age, family history of uterine prolapse, pelvic trauma history, and increased body mass index were found to be common risk factors for uterine prolapse [6,13]. However, in this case, none of these risk factors was present.

Antepartum complications associated with uterine prolapse during pregnancy are preterm labor and fetal death including abortion. Urinary tract infection and acute urinary retention can occur. Indeed, maternal death has been reported as a complication of uterine prolapse during pregnancy [2].

The most important intrapartum complication is cervical dystocia, which results in inability to attain adequate cervical dilatation. In addition, obstructive labor, as well as cervical laceration and a predisposition to rupture of the lower uterine segment, have been reported [7]. Therefore, some authors recommend elective cesarean section as a preferable mode of delivery to avoid potential intrapartum complications. However, as in this case, if the patient already has a favorably ripened cervix, obstetricians do not have to insist on a cesarean section.

The treatment of choice is conservative management during pregnancy because uterine prolapse usually resolves spontaneously after delivery. Conservative management consists of genital hygiene and bed rest in a slight Trendelenburg posi-

tion, which is managed with close follow-up on an outpatient basis or hospitalization [13]. A suspensory pessary application to protect the prolapsed cervix can also be considered, although this has been thought impractical [4,7]. Recently, cases of laparoscopic uterine suspension during pregnancy were reported, demonstrating an alternative minimal surgical approach. Cesarean hysterectomy with suspension of the pelvic floor or hysteropexy may be performed at the patient's request [6].

In conclusion, obstetricians should be aware of this rare condition and its complications. To our knowledge, this report is the second case in which the pregnancy ended with a vaginal delivery in a primigravid patient. Although most authors recommend elective cesarean section, the method of delivery should be individualized according to the patient's preferences, uterine cervical status, and labor progression.

Conflict of interest

No potential conflict of interest relevant to this article was reported.

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