

# Anterior vaginal wall protrusion in pregnancy: a case report

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# Abstract

Vaginal prolapse rarely complicates pregnancy. We experienced a 36-year-old, gravida 3, para I woman who presented at 37 weeks' gestation with gestational diabetes mellitus and a large anterior vaginal prolapse that could not be reduced manually or by bed rest. After obtaining consent, a cesarean section was successfully performed, and a live neonate delivered. The prolapsed anterior vagina recovered spontaneously following the cesarean operation. A vaginal prolapse in pregnancy is rare. Elective or emergency cesarean section is a possible treatment option when the prolapse cannot be reduced manually or by bed rest. Our case highlights the importance of routine obstetric examinations for early detection of a vaginal wall prolapse.

# **Keywords**

Vaginal wall prolapse, pregnancy, cesarean operation, pelvic floor, genital prolapse, blood glucose

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# Introduction

Previous childbirth, obesity, advanced age, and family history<sup>1</sup> are major risk factors for vaginal prolapse, which rarely complicates pregnancy.<sup>2</sup> Injury to the cervical fascia and pubocervical ligaments during childbirth, premature physical activity after delivery, and failure of the pelvic floor to recover well after pregnancy are common causes of vaginal wall prolapse associated with pregnancy.<sup>3</sup> These factors

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can result in the anterior vaginal wall protruding from the vagina after delivery. We report a case of a 36-year-old woman with a vaginal prolapse during pregnancy who had a successful cesarean delivery.

# **Case presentation**

A 36-year-old pregnant woman was hospitalized. The admission diagnoses were (i) third-degree anterior vaginal wall prolapse; (ii) gestational diabetes mellitus; and (iii) gravida 3, para 1 pregnancy at 37 weeks' gestation and fetal position of right occiput anterior. Three hours after admission to our hospital, we found that her anterior vaginal wall was bulging. Her last menstrual period was 37 weeks previously and the expected date of delivery was in 3 weeks. A urine pregnancy test was positive and an ultrasound examination at her local hospital showed an intrauterine pregnancy. Four months after her last period she had experienced fetal movement. She had not scheduled any obstetric examinations during pregnancy. An oral glucose tolerance test during pregnancy at 25 weeks showed blood glucose levels ranging from 5.35 to 8.6 mmol and she had been instructed to manage her glucose levels by alterations in her diet. Her blood glucose

levels were not monitored throughout her pregnancy. There were no obvious additional abnormalities on a physical examination, except for prolapse of the entire anterior vaginal wall out of the vagina after 3 hours of activity. The prolapse did not resolve after resting in a horizontal position. She had no urinary frequency, urgency, or dysuria, and her stools were normal. She had a small amount of vaginal bleeding continuously 1 minute after 3 hours of activity, but no other vaginal discharge. She had no significant medical history, with a vaginal delivery more than 3 years previously.

On admission, her temperature was 36.7°C, pulse rate was 84 beats/minute, respiratory rate was 20 breaths/minute, blood pressure was 111/72 mmHg, uterine height was 39 cm, and waist circumference was 91 cm. The position of the fetus was right occiput anterior, the fetal heart rate was 154 beats/minute, and the fetal weight estimated to be 3600 g. There were no uterine contractions. External pelvic measurements were normal. The patient's vulva was normal. The anterior vaginal wall was protruding from the vagina (Figure 1). The protruding tissue measured  $10 \times 7$  cm and was not edematous or ulcerated. The patient's condition was discussed with her



Figure 1. Vaginal prolapse in pregnancy.

and manual attempts to reduce the anterior vaginal wall prolapse were unsuccessful. We considered that taking no action could result in cervical incarceration, changes in fetal position leading to dystocia, fetal hypoxia, and even fetal death. We also considered that cesarean section might relieve her symptoms and enable a reduction in the prolapse, but could exacerbate her condition, resulting in hemorrhage or even be life-threatening. In a discussion with the patient and her family, the patient was strongly encouraged to undergo cesarean section. After consent was obtained, cesarean section was successfully performed and a live neonate was delivered. The patient recovered well and was discharged home.

This case report was approved by the Ethics Committee of the People's Hospital of Qiannan (approval no: 20190312132). The participant signed informed consent for publication.

# Discussion

The incidence of vaginal wall prolapse during pregnancy is rare because this condition generally affects older women who are not pregnant, with an increasing prevalence associated with advancing age.<sup>1</sup> Since 2000, specifically within the English language literature, there have been less than 30 cases of a newly diagnosed pelvic organ prolapse during pregnancy.<sup>4–10</sup> The causes of pelvic organ prolapse are diverse, and include age, obesity, parity, menopause, ethnicity, family history, connective tissue disorders, and obstetrical traumas,<sup>1</sup> among others. Recently, hypertension and diabetes were proposed as risk factors for pelvic organ prolapse.<sup>11,12</sup> While these comorbidities in isolation may not predispose an individual to prolapse, when present in combination with one or more established risk factors, they could result in a prolapse, even during pregnancy. The patient in this report presented with untreated gestational

diabetes and her glucose levels were not monitored throughout her pregnancy. In combination with her multigravida status, which is a well-established risk factor for pelvic prolapse, these factors could have increased her risk for vaginal prolapse during pregnancy.

Pelvic muscle weakness can result in an additional load on the connective tissue and pelvic ligaments,<sup>13</sup> which could increase the risk of a pelvic organ prolapse, regardless of pregnancy. During pregnancy, this load further increases. Our patient did not attend any prior obstetric examinations leading to her admission to the hospital. While reliable identification of a possible prolapse is limited,<sup>14</sup> routine medical monitoring increases the chance of diagnosing or possibly preventing prolapse. Additionally, there is evidence to suggest that strengthening of the pelvic floor muscles, through targeted physical therapy,<sup>15</sup> significantly decreases the risk of a pelvic prolapse after delivery and possibly during pregnancy.

The method of delivery should be discussed with a pregnant patient with vaginal prolapse and be based on their current health status in addition to personal preference. While vaginal delivery is possible, elective cesarean section near term is a safe and effective delivery option if the prolapse cannot be treated manually or through bed rest.<sup>16,17</sup> The case presented here is an important example of a successful cesarean birth with spontaneous recovery of vaginal wall prolapse.

# Conclusion

Prevention of pelvic floor dysfunction during pregnancy requires routine obstetric examinations, along with pelvic floor muscle strengthening,<sup>14</sup> especially for those with high risk factors, such as diabetes mellitus and hypertension.<sup>12</sup> The case presented here provides evidence of cesarean section as a treatment option when vaginal prolapse cannot be reduced manually or by bed rest.

# Authors' contributions

DL designed the study and wrote the case presentation. FL, XN, HZ, and YH were involved in a literature search. All of the authors were involved in interpretation of data, writing of the manuscript, and the decision to submit the manuscript for publication. All authors have read and approved the final manuscript.

#### **Declaration of conflicting interest**

The authors declare that there is no conflict of interest.

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