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Case report

Urethral diverticulum in pregnancy

Qiao-Xuan Xie [a], Tsia-Shu Lo [a, b, c, d, *], Pei-Ying Wu [b], Leng Boi Pue [e, f], Nazura bt Karim [e, g]

[a] Department Of Obstetrics and Gynecology, Chang Gung University, School of Medicine, Taoyuan, Taiwan, ROC
[b] Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, Keelung Medical Center, Keelung, Taiwan, ROC
[c] Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, Taipei Medical Center, Taipei, Taiwan, ROC
[d] Division of Urogynecology, Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, Linkou Medical Center, Taoyuan, Taiwan, ROC
[e] Fellow of the Division of Urogynecology, Department of Obstetrics and Gynaecology, Chang Gung Memorial Hospital, Linkou, Taoyuan, Taiwan, ROC
[f] Department of Obstetrics and Gynecology, Hospital Serdang, Kajang, Selangor, Malaysia
[g] Department of Obstetrics and Gynecology, Hospital Tuanku Jaafar, Seremban, Negeri Sembilan, Malaysia

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ABSTRACT

Urethral diverticulum is rare in pregnancy. There is no clear guideline on the management of urethral diverticulum in pregnancy, but most cases were managed conservatively. We report a case of urethral diverticulum in a primigravida woman, who presented with anterior vaginal swelling at 14 weeks of gestation. She was managed conservatively and the cyst (approximately 8 cm × 13 cm) was aspirated during the early stage of labor. However her labor did not progress during the second stage, which resulted in an emergency cesarean section. She underwent diverticulectomy at 1 month postpartum because of the recurrence of the swelling and persistent discomfort. We believe that her dystocia may have been caused by factors other than the diverticulum. As previously described in literature, we concluded that, even in pregnant women with a large urethral diverticulum, vaginal delivery can still be considered with prior aspiration during the early stage of labor.

Introduction

A female urethral diverticulum (UD) is an evagination of the urethral mucosa, which forms a sac that is continuous with the lumen of urethra. It has an estimated prevalence between 1% and 6%.[1,2] However, it is rarely seen during pregnancy. For asymptomatic women, it can be managed conservatively; however, for symptomatic women, treatment usually includes diverticulectomy or marsupialization.[3] However, there is no guideline for the treatment of pregnant women with UD. In this paper, we present a case of UD in pregnancy and compare it to a few cases published in the literature.

Case report

A 32-year-old primigravida woman presented on March 7, 2012 at 14 weeks of gestation, with a chief complaint of an abnormal painless vaginal mass. There were no other genitourinary symptoms. The pelvic examination showed a 3-cm diameter cystic mass at the anterior wall of lower third of the vagina. Urine culture and pus culture from the cyst aspirate were negative. There was no abnormal finding on cystoscopy. Under the impression of an asymptomatic UD, the patient was managed expectantly and followed up in the outpatient clinic. Three months later, the patient came for a regular prenatal visit, but complained about hematuria. A second aspiration was performed, and the pus culture grew *Enterococcus fecalis*, despite no significant finding on urine analysis and urine culture. She was started on intravenous ampicillin (2 g), followed by oral ampicillin for 2 weeks. Her condition improved. Her pregnancy subsequently progressed to term uneventfully.

The patient went into spontaneous labor. During the early stage of active labor, the diverticulum was aspirated as much as possible to allow fetal head passage. Her labor was unfortunately prolonged at the second stage. Hence, a cesarean section was performed.

At 1 month postpartum, the cyst recurred and she had persistent discomfort. Computer tomography before the operation showed a cystic mass of approximately 8.6 mm × 13.4 mm × 3.5 mm at the anterior wall of the lower third of the vagina.

Conflicts of interest: None.

* Corresponding author. Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, Keelung Medical Center, 222, Maijin Road, Keelung, 204, Taiwan, ROC.
E-mail address: 2378@cgmh.org.tw (T.-S. Lo).

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She underwent diverticulectomy under general anesthesia. An incision was formed intraoperatively on the vaginal mucosa and the diverticulum was mobilized from the underlying fascia. The neck of the diverticulum (2 cm in diameter) was traced to the posterior wall of the urethra, approximately 1 cm from the urethral orifice. It was ligated and the urethral wall was repaired with vicryl 2/0 sutures. The pathology report indicated urethral tissue with chronic inflammation and calcification.

Discussion

There are many urologic conditions that are problematic to women such as urinary incontinence,[4] but many women experience UD. There is no guideline for the treatment for UD during pregnancy. Most gynecologists would continue to observe and manage it conservatively. Surgical intervention should be avoided during pregnancy because of potential operative and anesthetic risks to the mother and child. However, gynecologists/obstetricians would have to decide whether vaginal delivery is suitable for these patients. Based on the relative positions of anatomical structures, we hypothesize that a vaginal delivery depends on the diameter and the location of the diverticulum. When the fetus passes through the true pelvis, a proximal periurethral diverticulum would be compressed anteriorly against the pelvic pubic symphysis. This action may cause urinary tract rupture or dystocia. Aside from diverticulectomy, this risk can be reduced by minimizing the size of the cyst through aspiration or through incision and drainage.

It is reasonable to hypothesize that a distal periurethral diverticulum would be less likely to obstruct the labor passage because the surrounding soft tissues are adaptable. Therefore, for asymptomatic and uncomplicated cases, marsupialization would not have been an urgent operation before vaginal delivery.

In 1998, a case series reported by Moran et al[5] presented two successful cases of vaginal delivery in women who had UD during pregnancy.[5] Both women were treated with antibiotics prenatally. One of these women had a 1.2-cm diverticulum at the distal urethra, and delivered directly without any intervention. The other woman had a 6-cm diverticulum in the proximal urethra, which had been aspirated, before delivery.[5] In our patient, an 8.6-cm diverticulum was located on the lower third of the vagina. Vaginal delivery failed, despite having undergone aspiration before labor. The failure may be attributable to calculus formation in the diverticulum, but the subsequent diverticulectomy disputed this hypothesis. We believe that the dystocia may have been caused by other factors such as uncoordinated uterine activity or relative cephalopelvic disproportion, rather than caused by the diverticulum. In conclusion, even for a pregnant woman with a large UD, vaginal delivery can still be considered with prior aspiration during the early stage of labor.

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