International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Verma A et al. Int J Reprod Contracept Obstet Gynecol. 2025 Mar;14(3):954-956
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20250540

Case Report

Vaginal delivery through an intrapartum bucket handle cervical tear: a rare case report

Aruna Verma, Himani Pandey*, Ravita Rana, Shazia Parveen

Department of Obstetrics and Gynaecology, LLRM Medical College, Meerut, Uttar Pradesh, India

Received: 05 January 2025
Accepted: 04 February 2025

***Correspondence:**
Dr. Himani Pandey,
E-mail: himanipandey1994@gmail.com

ABSTRACT

Cervical tears, though rare, pose serious risks to maternal health, especially postpartum haemorrhage. During labour, these injuries can include cervical avulsion, annular detachment, bucket-handle tears, and lateral tears. Our case report presents a rare instance of spontaneous vaginal birth through a posterior bucket-handle cervical tear in a primiparous woman. This occurred despite the external cervical os being partially dilated without known risk factors. This situation serves as a warning that strong uterine contractions accompanied by a failure of the external cervical os to dilate may indicate an imminent cervical tear. In cases of excessive postpartum blood loss, it is essential to maintain a high level of suspicion for cervical tears. This emphasizes the importance of thoroughly inspecting the genital canal after a vaginal birth. Prompt diagnosis, repair, anatomical restoration, and haemostasis are essential for achieving the best outcomes

Keywords: Cervical bucket handle tear, Postpartum haemorrhage, Genital tract injuries

INTRODUCTION

Cervical tears, though relatively rare, occur in about 1.2% of vaginal deliveries and present significant risks for maternal health, particularly concerning postpartum haemorrhage.[1] Cervical injuries during labour have been reported to include cervical avulsion, annular detachment, bucket-handle tears, and lateral cervical tears.[2] A bucket-handle tear is characterized by a laceration of the anterior or posterior lip of the cervix, causing it to hang like a bucket handle. It is infrequent for a cervical tear to be large enough to simulate full cervical dilation, allowing the foetus to pass and resulting in a vaginal delivery. Despite the external cervical os being partially dilated and without any known risk factors, this case represents a rare instance of spontaneous vaginal birth through a posterior bucket-handle cervical tear in a primiparous woman.

CASE REPORT

A 23-year primigravida with a singleton pregnancy at 39 weeks and 5 days gestation was admitted to the labour room at Lala Lajpat Rai medical college in Meerut. She was in the latent phase of labour and had severe thrombocytopenia. She had regular antenatal care without any history of hypertension, gestational diabetes, anaemia, or any other medical conditions. Additionally, there was no prior history of abdominal, pelvic, or vaginal surgeries.

On admission her vitals were stable and abdominal examination was suggestive of term gestation with cephalic presentation and adequate amniotic fluid. Regular fetal heart sounds were heard in the left lower quadrant. Uterine contractions were noted, lasting 20-30 seconds and occurring twice every 10 minutes.

Speculum and vaginal examinations showed no injuries or lesions in the cervix or vagina and there was no evidence of bleeding or leaking. The cervix was 3-4 cm long, tubular, mid-position, with 1-2 cm dilation of the external os. The fetal head was at -3 station, and the modified Bishop's score was 4. Ultrasonography indicated normal findings, with an estimated fetal weight of 2.4 kg.

Platelet transfusion was initiated, and the patient was closely monitored for spontaneous labour progression.

After 4 hours of admission, she experienced adequate uterine contractions, occurring 4 times in 10 minutes, each lasting 30-40 seconds, with regular fetal heart rate monitoring. A repeat vaginal examination, conducted four hours after the initial assessment, revealed that the cervix was mid-positioned, 3-4 cm in length, and the external os remained 1-2 cm dilated. The presenting part was at 0 stations, the membranes were absent, and the amniotic fluid was clear.

Thirty minutes after this assessment, the patient experienced strong uterine contractions and an urge to push, with the crowning of the fetal head noted.

A female baby weighing 2.3 kg was born, with immediate cry. Within five minutes, the placenta was delivered spontaneously after the active management of third stage of labour. However, an unusual amount of blood loss was observed following the delivery of the placenta. The uterus was examined and determined to be well contracted. Patient was shifted for examination under anaesthesia in OT. A speculum examination showed that the posterior cervical lip's bucket handle tear was actively bleeding. The tear was 8-9 cm in length, extending from 2 o'clock to 10 o'clock position, while the external os remained only 1-2 cm dilated. (Figure 1) This cervical tear had allowed the foetus and placenta to be delivered, leading to excessive blood loss afterward. Additionally, a midline second-degree tear of the posterior vaginal wall was noted, though it was not actively bleeding.

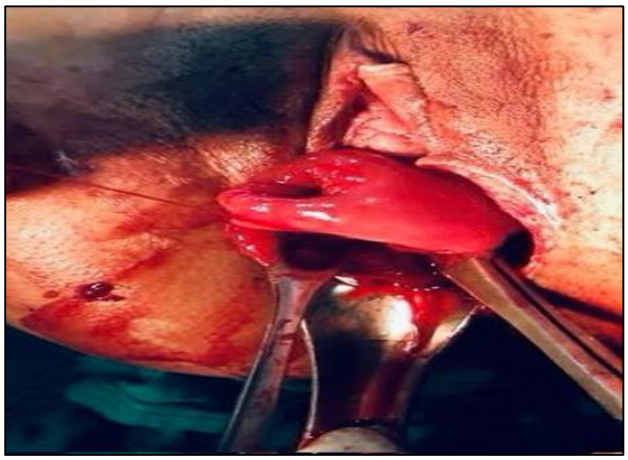

Figure 1: Bucket handle tear in posterior cervical lip with un-dilated external os.

Haemostasis was achieved by suturing the cervical tear under anaesthesia using continuous absorbable chromic catgut sutures (No.1). The continuity of the cervical canal was checked, and the vaginal tear was repaired. The patient had an uneventful recovery. On the fifth day postpartum, the patient was discharged from the hospital following a smooth postoperative period. The patient was followed up after 3 weeks. Cervical tear was healed with an uneventful postpartum period.

DISCUSSION

If cervical tears aren't detected and treated promptly, they can result in major maternal problems, such as elevated morbidity and mortality, and are a known source of severe postpartum hemorrhage.[3] Key factors increasing the risk for cervical tear include: Instrumental delivery with forceps or vacuum extraction increases the likelihood of cervical trauma due to the additional forces applied to the cervix during delivery. Manual dilation of the cervix during labour, particularly when the cervix is not yet fully dilated, can predispose the cervix to tear. Precipitous labour can cause a rapid and intense delivery, increasing the risk of tears to the cervix.[4] Prolonged labour or labour with inadequate uterine contractions can also increase cervical stress, making it more vulnerable to tearing. Previous cervical surgery such as loop excision or cervical cerclage may cause cervical fibrosis, which leads to failure of the cervix to dilate properly during labour, thereby increasing the likelihood of cervical tears.[2] Labour Induction with prostaglandins and oxytocin increases the probability of cervical trauma.[5]Hyperstimulation of the uterus, often caused by the use of oxytocin or prostaglandins can result in overly frequent and forceful contractions, which may contribute to cervical trauma.

However, a large tear that mimics full cervical dilation allowing delivery of the foetus is rare.

Few cases of vaginal birth through these lesions have been documented.

Uchil et al reported one instance of spontaneous vaginal birth through an uncommon posterior cervical tear.[6]

Djokovic et al reported a case of spontaneous vaginal birth through a cervical tear that was caused by prostaglandin-induced labour in a woman with a history of cervical dilatation and uterine curettage.[7]

An instance of vaginal birth through a posterior cervical tear during cerviprime gel-induced labour in a primigravida with a post-dated pregnancy was recorded by Chilkund et al.[8]

Contrary to other reported cases, in our case, no induction or augmentation of labour was carried out and there was no history of previous cervical surgery. In this case, labour was in the latent phase for the first four hours after admission. Uterine contractions progressed adequately, but the external os failed to dilate. A warning signal is raised when a rigid external os is repeatedly observed amid significant uterine contractions. A drastic and quick shift in the course of labour was indicated by the abrupt and unanticipated transition from latent labour to impending vaginal birth within 30 minutes. This abrupt change highlights how crucial it is to identify this warning

indication. Performing a caesarean section upon detecting external os rigidity and failure of cervical dilation in the presence of adequate strength and regular uterine contractions could avert this problem, regardless of its cause.

CONCLUSION

In summary, maternal morbidity and mortality are significantly impacted by cervical tears. Particular attention should be paid to changes in cervical features and the alteration of the external os during the course of labor while doing serial digital examinations of the cervix. Our situation serves as a warning that when there are strong uterine contractions and the external cervical os fails to dilate, this could be a sign of an imminent cervical tear. In the event of excessive postpartum blood loss, a high index of suspicion for cervical tears should be elevated. It emphasizes how crucial it is to thoroughly inspect the genital canal following both aided and normal vaginal birth. The key is prompt diagnosis, repair, anatomical restoration, and hemostasis.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Devkota A, Adhikari S, Neupane B. Prostaglandin Induced labor a risk factor for cervical tear. Nepal J Obstet Gynaecol. 1970;1(2):14-8.
2. Fessehaye A, Asfaw M, Kitila HH, Gudu W. Bucket-handle cervical tear at term following oxytocin-induced vaginal delivery: a case report. J Med Case Rep. 2022;16(1):79.
3. Biehl DR. Antepartum and postpartum hemorrhage. In: Schnider SM, Levinson C, editors. Anesthesia for obstetrics. 2nd ed. Baltimore: Williams and Wilkins. 1987;385-94.
4. Hsieh YY, Tsai HD, Chang CC, Yeh LS, Yang TC, Hsu TY. Precipitate delivery and postpartum hemorrhage after term induction with 200 micrograms misoprostol. Zhonghua Yi Xue Za Zhi (Taipei). 2000;63(1):58-61.
5. Parikh R, Brotzman S, Anasti JN. Cervical lacerations: some surprising facts. Am J Obstet Gynecol. 2007;196(5):e17-8.
6. Uchil D, Kumakech W, Jolaoso A. Spontaneous vaginal delivery through an unusual posterior cervical tear. J Obstetr Gynaecol. 2006;26(3):263-4.
7. Djokovic D, Costa C, Martins A, Abushad S. Spontaneous delivery through a cervical tear without cervical os dilatation. Clin Case Rep. 2015;3(1):3-6.
8. Chilkund JN, Kore SS, Mehta KM. Vaginal delivery through posterior cervical tear without dilatation of cervical Os. J Evol Med Dent Sci. 2020;9(21):1669-71.

Cite this article as: Verma A, Pandey H, Rana R, Parveen S. Vaginal delivery through an intrapartum bucket handle cervical tear: a rare case report. Int J Reprod Contracept Obstet Gynecol 2025;14:954-6.