A Rare Type of Uterine Rupture Following Over-The-Counter Use of Misoprostol in Second Trimester Abortion

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Abstract

Misoprostol use in the second trimester in a woman with a uterine scar may lead to severe contractions and uterine rupture. Herein we present a unique type of uterine rupture in a 24 year-old at 16 weeks’ gestation with previous caesarean scar who took over-the-counter misoprostol for inducing abortion. The woman was in haemorrhagic shock at presentation in the Emergency Department of our hospital (JIPMER, Puducherry, India) in the month of January 2020. A quick initial resuscitation and urgent laparotomy was performed. We noted an irreparable circumferentially avulsed uterus suspended only by round ligaments. Haemostasis required internal artery ligation and immediate total hysterectomy. The patient was doing well when she came for follow up 6 months after the surgery. Proper and supervised use of misoprostol in appropriate dosage can avoid life threatening consequence of uterine rupture.

Keywords: Uterine rupture, misoprostol, abortion, hysterectomy

Introduction

Termination of pregnancy in first and second trimester in patients with prior uterine scar is challenging.¹ Misoprostol is commonly used drug for induction of abortion even in the unsupervised clinical settings.² However, its dosing regimen has remained controversial.³,⁴

Over-the-counter use of misoprostol has resulted in documented or undocumented incidences
of varying grade of uterine rupture. Uterine rupture is a surgical emergency and it requires immediate care to avoid life threatening medical, surgical and psychological consequences. In this 24-year old patient with previous caesarean scar, we witnessed a unique type of uterine rupture that developed after over the counter use of misoprostol to induce 2nd trimester abortion.

**Case Report**

A 24-year-old G3P1L1A1 (Pregnant women who had a full term delivery, one living child, and one abortion) took unsupervised unknown dosage misoprostol to induce abortion at 16th week of gestation. She underwent cesarean delivery two years before the current pregnancy. She self-administered unknown dosage of misoprostol through vaginal route at 4-hours interval. She noticed expulsion of the products of conception after 2 hours of the last dose of misoprostol. A local physician performed dilatation and curettage to treat heavy vaginal bleeding 1 day prior to presentation in our hospital. Her vaginal bleeding did not subside and she could have developed iatrogenic uterine perforation after dilatation and curettage. At admission, she was drowsy, extremely pale, and afebrile. Her vitals included a pulse rate of 130 / min, systemic blood pressure of 90 /60 mmHg and respiratory rate of 28/ minute. Rest of the cardiovascular, respiratory and central nervous system findings was unremarkable. Abdominal examination revealed a diffuse tenderness and a well retracted 16-weeks uterus deviated towards the right side of abdomen. A continuous fresh blood trickling was noted along with cervical tears at 2 o’clock and 6 O’ clock position extending till posterior fornix, during speculum examination. Furthermore, cervix appeared uneffaced and os patulous. Both fornices were boggy and tender, and a transverse rent was noted in posterior fornix through which the posterior wall of uterus was felt. Bedside pelvic ultrasound scan revealed a post-abortal uterus with an empty cavity and a moderate amount of free fluid in the abdomen. Resuscitation was performed under guided hemodynamic monitoring and an immediate exploratory laparotomy was planned under general anaesthesia. Intraoperatively, 500 ml of hemoperitoneum was noted with large clots in the pelvic cavity. There was a full length scar rupture with the rent extending posteriorly. The posterior aspect of the uterus was avulsed completely above the level of internal os and it was suspended only by the round ligament bilaterally and it appeared like a bucket handle tear (Figures 1-3). The patient remained hemodynamically unstable and circumferential rent repair did not seem possible. There was a broad ligament hematoma of 5×5 cm on the left side. Left uterine artery appeared avulsed and could not be traced. Bladder integrity was normal and there was no evidence of haematuria.
Total abdominal hysterectomy along with left internal artery ligation was performed to achieve haemostasis. She was successfully resuscitated and extubated inside the operation theatre. Her postoperative investigations were unremarkable. Patient’s clinical condition improved completely and she was discharged from the hospital on postoperative day 7. Patient was doing well when she was last contacted nearly 3 months after her surgery. Furthermore, the patient provided written informed consent for publication of anonymized data during her 1st follow up visit to our hospital.

**Discussion**

An unknown dose of misoprostol followed by dilatation and curettage in a previously scarred uterus could have led to uterine rupture in this patient. Uterine rupture is primarily a clinical diagnosis and hence prompt surgical management is critical. Risk factors for uterine rupture include previous uterine scar, short inter pregnancy interval, multi parity, uterotonic drugs, and obstructed labour.\(^5\) Additionally, the incidence of uterine rupture has been noted to be higher (0.28% vs 0.04%) in scarred than unscarred uterus.\(^4\) Patient’s survival after uterine rupture depends on the time interval between rupture and intervention and urgent referral to a tertiary care centre.

Rent repair is the key to treatment and internal iliac artery ligation is a lifesaving procedure in cases of uncontrolled obstetric hemorrhage. However, hysterectomy should not be delayed if the bleeding is intractable or the uterine rupture is irreparable.

Second trimester pregnancy termination using misoprostol in appropriate dosage in supervised settings in women with cesarean scar is safe and has been associated with uterine rupture in 0.3-0.4%.\(^1,6,7\) A retrospective report did not observe uterine rupture after misoprostol induction for termination of 2nd trimester pregnancy in scarred uterus.\(^7\) In this patient we noted a characteristic bucket handle type of uterine rupture also reported by Abubekar et al.\(^9\) An unyielding cervix with misoprostol induced strong uterine contractions in a scarred uterus may predispose to such type of uterine rupture.\(^10\) Additionally, unsupervised vigorous dilatation and curettage could have either led to iatrogenic uterine perforation or could have further aggravated the tear induced by misoprostol.

**Conclusion**

Over the counter, unsupervised use of misoprostol in a scarred uterus to induce 2nd trimester abortion can have catastrophic consequences. Dilatation and curettage should be avoided...
before ruling out uterine rupture. An early referral to a higher center may prevent severe maternal morbidity and mortality.

References


**Figure 1:** Anterior view of the uterus circumferentially avulsed at the level of internal os.

**Figure 2:** Avulsed uterus seen suspended only through Round Ligaments.

**Figure 3:** Lateral view showing the Avulsed uterus.