*Case Report*

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# Uterine Rupture: A Rare Case and its Successful Management

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**Abstract**

Misoprostol is a commonly preferred drug for induction of labor but it should be strictly avoided in scarred uterus because of high chances of uterine rupture. Here presented a 31 year old female with intrauterine death of twin pregnancy at 20 weeks of gestation who had uterine rupture probably due to vaginal misoprostol. This report elaborates about the uterine rupture, a rare presentation and its successful management.

**Keywords:** Uterine rupture; Misoprostol; Caesarean section; Hysterectomy.

## Introduction

Uterine rupture is a serious and fatal obstetric complication for both the mother and also fetus, leading to high incidence of fetal and maternal morbidity and mortality. Uterine rupture is typically classified as complete uterine rupture which refers to all layers of uterine wall are separated and incomplete uterine rupture which refers to only uterine muscles are separate whereas visceral peritoneum is intact. The incidence of uterine rupture may vary from 1 in 1280 deliveries to 1 in 18500 deliveries 1 and more than 90% of uterine ruptures are associated with prior caesarean section. Approximately one percent of the pregnancies with previous uterine scar rupture during induction of labor with misoprostol or oxytocin.[1] Hence reporting a case of uterine rupture in a previous caesarean section following induction of labor in a patient with intrauterine death of twin pregnancy at 20 weeks of gestation in order to bring into notice that rupture uterus can occur when vaginal misoprostol in a scarred uterus during second trimester of pregnancy.

## Case Report

A 31 year old female who was G4A2P1L1 with previous LSCS presented to the emergency department with twin gestation at 20 weeks of gestational age with intrauterine death. She was transferred from a private hospital for further management with complaints of abdominal pain and bleeding per vaginum since morning. She was treated outside with vaginal misoprostol for induction of labour. On history her previous caesarean section was done before three years in view of oligohydramnios. An initial ultrasound demonstrated monochorionic diamniotic twin of 19 weeks 6 days with crowded fetal parts and reduced amniotic fluid suggestive of oligohydramnios. Also ultrasound findings suggested that uterine rupture and absent fetal heart sound (Fig. 1).

On admission her blood pressure was 130/80 mm Hg and pulse rate was 100 beats/min and in her per abdominal examination uterus was corresponding to 20 weeks of gestation and diffuse tenderness was present over the abdomen.Patient was admitted immedeatly and a provisional diagnosis of uterine rupture was made and planned and posted for emergency laparotomy in view of uterine rupture.

Under spinal anaesthesia, patient was positioned supine, parts painted, abdomen opened by pfannensteil incision, haemoperitoneum was noted around 500 ml, uterus was ruptured posteriorly and rent was present. Placenta and fetal parts were

seen in the abdominal cavity. Both twins along with placenta were removed (Fig. 2). Total abdominal hysterectomy with right salphingo oophorectomy was performed. A Drain was kept intraperitoneally and abdomen was closed in layers. Vault closed after obtaining perfect haemostasis. The patient was transfused with 2 units of blood postoperatively in view of hb-7.5 g/dl. There was no postoperative complications. Patient was managed routinely with antibiotics and analgesics. Drain was removed after 48 hours. All skin sutures were removed on post operative day 8 and she was discharged home with oral antibiotics.

## Discussion

Misoprostol is commonly used for induction of labor at term and for cervical ripening at first trimester pregnancies.[2] It is a synthetic prostagland in E1 analogue which can be administered orally, vaginally or rectally; but there is evidence that the vaginal route is probably more effective for termination of second trimester pregnancies.[3] It has been suggested that prior treatment with mifepristone enhances the efficacy of vaginal misoprostol when inducing abortion in the second trimester.[4] Its main limitations are the associated risks of uterine hyper stimulation and rupture. There have been isolated reports of rupture of the unscarred uterus during misoprostol induction of labor in the second trimester and at term.[5]

The incidence of uterine rupture in women with a prior cesarean during mid-trimester medical termination with oxytocin or prostaglandin E2 was 3.8% in a retrospective review by Chapman et al.[6]

Chen et al[7] reported uterine rupture at 23 weeks' gestation in a woman with two prior cesarean sections who received 200 mcg misoprostol for labor induction. In another case report, a woman with two prior cesarean sections who was given 400 mcg misoprostol intra-vaginally and then 400 mcg buccally for pregnancy termination by dilatation and evacuation was reported to develop uterine rupture.[8]

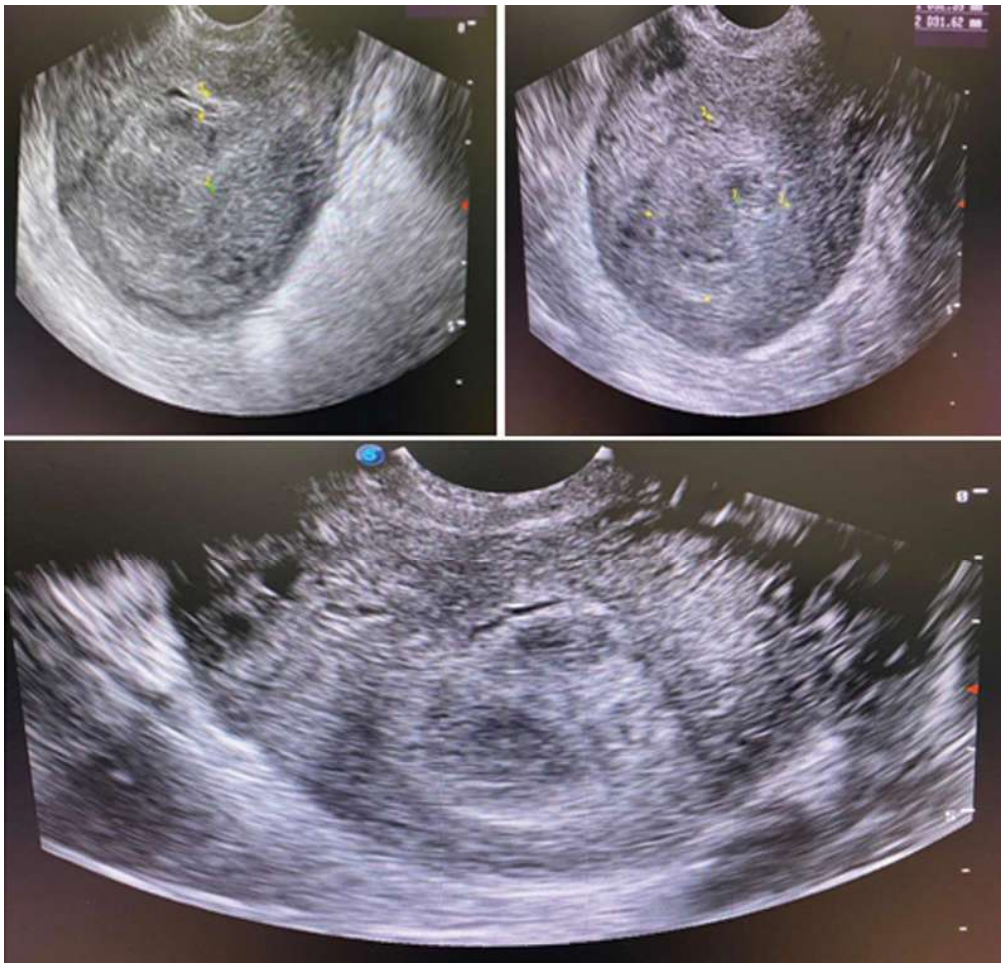

**Fig. 1:** Ultrasound Images showing Ruptured Uterus.

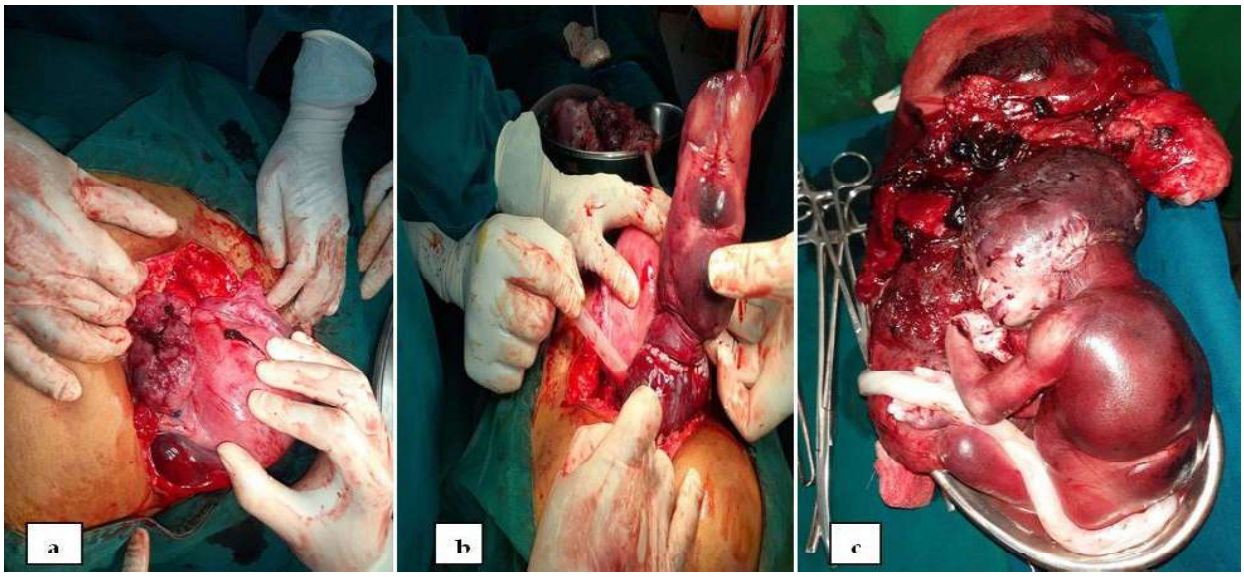


**Fig. 2:** Laparotomy a) showing ruptured uterus. b) removal of dead fetus. c) removed fetus and placentax.

Pongsatha et al[9] reported no uterine rupture in their series including 247 pregnant women administered different misoprostol regimens for termination of second trimester pregnancies. However, they suggested close follow-up for induced abortion in case of a previous scar. Otherwise the uterine rupture rate would probably be high if misoprostol was used routinely. Al Hussainiet al[10] reported a case of uterine rupture at 23 weeks and 5 days in a 36-year-old grand multiparous woman. A misoprostol tablet (200 mcg) was inserted in the posterior vaginal fornix and induced with oxytocin after an improved Bishop score.

The present case had history of one previous lower segment caesarean section and ruptured her uterus whilst on her first dose of vaginal misoprostol. There is still debate concerning the appropriate dose of misoprostol to be used for induction of labor. Brique et al[11], reported no complications with the use of 100 µg in grand multiparous women, but uterine rupture following multiple doses of oral misoprostol 100 µg in multigravid women has been reported.[12]

Golderg et al[13] have proposed that since it was still not clear whether the use of misoprostol increases the frequency of uterine rupture in women attempting vaginal delivery after caesarean section, or whether the use of any drug to induce labor in a woman with unfavorable cervix increases the risk of rupture. Misoprostol should not be used routinely to induce labor in women with previous uterine scar until it has been proved safe for further studies.

## Conclusion

Vaginal misoprostol at any dose can result in uterine rupture during induction of abortion in the second trimester in the presence of one previous lower segment caesarean scar. Hence it is more important to avoid vaginal misoprostol in cases with previous caesarean section or if administered closely observation is needed.

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