

## Case Report



# First Trimester Rupture of Scarred Uterus After Use of Mifepristone, Misoprostol A-Case Report.

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### Abstract

**Abstract:** Uterine rupture is a disastrous obstetric complication, occurring mostly in second and third trimesters. The risk of uterine rupture markedly increases with previous uterine surgeries. Termination of early pregnancy failure by misoprostol is common. However, its use in women with scarred uterus is speculative and usually puts the obstetricians in a stressful condition. Here we present a case of rupture of a scarred uterus in the first trimester after using mifepristone and misoprostol. A 25 years old parous lady presented with uterine rupture after taking mifepristone and misoprostol by herself to induce abortion for unwanted pregnancy. Immediate laparotomy was done and the defect was repaired. Termination of pregnancy in a woman with scarred uterus by mifepristone and misoprostol can lead to uterine rupture. It should be used cautiously under close supervision or other routes (vaginal or oral).

**Key words:** Uterine rupture, mifepristone, misoprostol, induced abortion, scarred uterus, effective contraception.

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### Introduction

Uterine rupture is an obstetric emergency with a high risk of maternal and fetal mortality and morbidity.<sup>1</sup> It is rare with an incidence ranges from 1 in 8000 to 1 in 15000 pregnancies.<sup>2</sup> It commonly occurs in second and third trimester, especially in woman with scarred uterus.<sup>1,3</sup> Misoprostol, a synthetic prostaglandin E1 analogue is very effective in terminating early pregnancy failure as it induces uterine contractions and ripens the cervix.<sup>4</sup> Different dose and routes of administration (oral, sublingual, vaginal, rectal) have been used.<sup>4</sup> However the appropriate dose and route of administration are not well-determined.<sup>5</sup>

Here we present a case of first trimester ruptured uterus in a woman with a scarred uterus after induced abortion with mifepristone and misoprostol.

### Case Report

A 25 years old lady gravida 2 para 1+0, was presented at emergency dept. of KhwajaYunus Ali Medical college and Hospital at her 8 weeks of pregnancy with shock after receiving Mifepristone and Misoprostol by herself to induce abortion. She had one living child delivered by caesarean section 4 months back. For this reason she did not want to continue pregnancy and took Abortificant drug. On general examination, the patient was conscious, paper white, her pulse was 120 beats/min, blood pressure 60/40 mm of Hg, extrimities were cool and clammy. On per abdominal examination revealed generalized tenderness. There was no vaginal discharge or bleeding. A transabdominal scan revealed a bulky empty uterus with huge free intraperitoneal fluid collection. There was sign of scar dehiscence in anterior wall of uterus. Hematological examination showed hemoglobin

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5.3 gm/dl. WBC count 15,000/cmm.

The patient's relatives were counselled concerning the possibility of a rupture uterus and informed consent for abdominal exploration with the possible need for hysterectomy was obtained. In view of high index of suspicion for a ruptured uterus, an urgent laparotomy was performed under general anaesthesia. After opening the abdomen free blood collection was noted with defect in lower pole of uterus about 3 cm in length, and gestational sac near the margin of scar. The sac was removed and defect was repaired in single layer by delayed absorbable suture material. Peritoneal toileting was done and abdomen closed in layers.

The patient received 2 units of fresh blood during operation. She had smooth recovery from anaesthesia, then was transferred to postoperative care room. Post-operative Hb level was 10.5 gm/dl after receiving total 5 units of whole blood. Her postoperative period was uneventful and patient was discharged on 4<sup>th</sup> postoperative day without any complaint.

## Discussion

Uterine rupture can occur following lower segment cesarean section or upper segment surgeries including hysterotomy, classical cesarean section and myomectomy which carry an increased risk of uterine rupture early during pregnancy.<sup>6</sup> Rupture of unscarred uterus is quite rare; however, it can occur especially in multiparous woman, abnormal presentation, instrumental delivery and labor induction by misoprostol.<sup>7</sup>

Early pregnancy failure is common, occurring in 15-20% of known pregnancy.<sup>5</sup> Termination of early pregnancy failure can be achieved by expectant management, surgical evacuation or medical management.<sup>4</sup> There is no definite protocol with evidence-based efficacy, safety and acceptability for termination of early pregnancy failure in woman with a scarred uterus. This represents a great challenge to obstetricians to make a proper decision relevant to each case.

Medical management by prostaglandins is highly effective and avoids complications related to surgical evacuation. Based on pharmacokinetics of different routes of administration, the rate of absorption and peak concentration are greatest in sublingual route.<sup>8</sup> This may share a greater part in increasing the risk of uterine rupture than the other routes. Cases of uterine rupture have been reported involving small dose of misoprostol. One case involved an endocervical rupture in the second trimester following two doses of misoprostol.<sup>9</sup> Another was a scarred uterus and the patient was being prepared for surgical management.<sup>7</sup> A similar case to this was first trimester rupture following one dose of misoprostol in preparation for surgical management.<sup>10</sup> To our knowledge, there are only 3 reported cases in the published literature about uterine rupture in the first trimester following misoprostol use though only one occurred in the site of previous cesarean section.<sup>10</sup>

There is no evidence that pre-treatment with mifepristone might increase the chance of uterine rupture. It is thought that the chance might actually be reduced as mifepristone increases cervical compliance; however as it increases sensitivity to the

action of exogenous prostaglandin.<sup>11</sup> The risk benefit is not known. Previous cesarean section is thought to be risk for uterine rupture. One trial of second trimester abortion using misoprostol in 720 women with one or more previous cesarean deliveries have been carried out and concluded that the use of misoprostol was not associated with an excess of complications compared with women of unscarred uteri.<sup>12</sup> Another trial on 2008 on 652 women showed medical management with early pregnancy failure is an acceptable option in woman with prior uterine surgery.<sup>13</sup> The rate of uterine rupture following previous Caesarean Section with vaginal misoprostol is (25-50 mcg) is 6.2% according to data from Ophir et al.<sup>14</sup> One case report showed favourable result with low dose misoprostol for second trimester missed abortion in a woman with previous five cesarean section and history of rupture uterus.<sup>15</sup> Another case report shows rupture of scarred uterus in the first trimester after administration of 2 doses of sublingual misoprostol.<sup>16</sup>

An immediate laparotomy is the key to the successful treatment of a uterine rupture. It is recommended to use a contraceptive method for one year after uterine rupture.<sup>17</sup> Known risk factor for a uterine rupture including the type of scar, dose and route of administration of oxytocics would need to be taken into account when selecting patient for medical termination of early pregnancy failure. This highlights the need for further research in the context of misoprostol dosage and the route of administration in women with a scarred uterus.

## Conclusion

This case highlights the fact that uterine rupture can occur in early pregnancy when associated with scarred uterus. This drug should not be available to the patients without prescription. Effective postpartum contraceptive should be prescribed to all patients after cesarean section. Misoprostol should be used cautiously for termination of first trimester miscarriage even in low dose for women with a scarred uterus. The obstetrician should be aware of this potentially life threatening condition.

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