# Uterine rupture after instillation of single dose of PGE2 gel in primigravida: A Case Report

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**Citation**

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**Abstract**

Rupture of the pregnant uterus, one of most serious obstetric complications, is associated with high rates of maternal and fetal morbidity and mortality. The most common cause of rupture is dehiscence from previous cesarean section scar, especially in presence of oxytocin stimulation in unrecognized cephalopelvic disproportion. The reported incidence of spontaneous uterine rupture is 1 in 8,000 to 1 in 50,000 deliveries. Literature report of uterine rupture, associate uterine rupture with risk factors such as uterine abnormalities, grandmultiparity, macrosomic fetus, cephalopelvic disproportion, and trauma to the uterus from prior instrumentation, such as in abortion, version, or oxytocin stimulation2,3,4,6. We report a case of spontaneous rupture after single dose of PGE2 gel in a primigravida.

## CASE REPORT

A 25 year old primigravida, married one year back, admitted one week earlier of expected date of delivery, with a history of pain abdomen. She was examined in the obstetric outdoor department; the clinical findings observed are shown in Table 1.

It was decided by the attending team of obstetricians to induce labor by $PGE_2$ gel instillation in cervical canal, after all precautions were taken. Patient was not allowed to move for 30 minutes following induction. Fetal heart rate and onset of labor were monitored. Uterine contractions started 30 minutes after $PGE_2$ instillation. After about one hour of regular monitoring, patient started with hectic uterine contractions, sweating, and obvious distress was noticed. Pulse rate increased to 110 beats per minute. BP was 100/70 mmHg. Local examination revealed tense abdomen with deep tenderness. Fetal heart showed a pattern consistent with fetal distress. Vaginal examination indicated an os of 2 centimeters, cervix soft, membranes absent, and drainage of blood stained liquor. The patient was immediately shifted to emergency operation theatre and emergency cesarean section was performed. Operative findings revealed abdomen was full of blood. Incision was given in lower uterine segment, which was well formed, and a live baby was delivered. After resuscitation, 5-minute Apgar score of the baby was 8/10, and the baby was shifted to neonatology department. Placenta was removed, blood sucked out, and after careful examination of uterus and adnexa, rupture of posterior uterine wall was discovered, extending downwards. Ruptured portion was repaired. Bladder wall was found intact with no signs of injury. Both uterosacral ligaments were intact. The postoperative period was uneventful, and the patient was discharged from the hospital on 10 $^{th}$ postoperative day.

**Figure 1**

Table 1: Clinical Examination of the Patient at the time of admission

| | |
|---|---|
| General examination | |
| Pulse: | 90/minute, regular |
| BP: | 110/70 mmHg |
| Respiratory system: | Normal |
| CVS/ CNS: | Normal |
| Perabdominal examination | |
| Uterus: | Term size |
| Presentation: | Cephalic |
| Fetal heart: | 140 beats/minute, regular |
| Pervaginal examination | |
| Os: | 2 cm. |
| Cervix: | Uneffaced |
| Pelvis: | Adequate |
| Obstetric Sonography | |
| Gestational age: | 38-39 weeks |
| Presentation: | Single live fetus with cephalic presentation |
| Placenta: | Anterior fundal |
| Liquor: | Increased with grade-I polyhydraminios |

## DISCUSSION

Uterine rupture following PFGE$_2$ instillation is a rare entity. PGE$_2$ is administered endocervically, and it induces contraction similar to contractions seen in term uterus during labor. It also has local effect of softening, effacement and dilatation of cervix cervical ripening. PGE$_2$ gel is used for preinduction cervical ripening and dilatation of pregnant women at or near term with unfavorable induction score. It is usually considered as safe method of induction of labor. A single dose is required and a repeat dose, if needed, is instilled after 6 hours. In our patient, there was no contraindication to use of PGE$_2$ gel, like history of previous cesarean delivery, previous or current PID, previous history of abortion or MTP, grand multiparity , placenta previa, or unexplained vaginal bleeding.

The patient was primigravida with an adequate pelvis. PGE$_2$ instillation was carried out by a senior resident doctor and the patient was monitored regularly. No concomitant oxytocin was used.

This case report reflects the concern that despite being safe to be used, PGE$_2$ can produce most severe side effects like uterine rupture, and its use should always be attended with intense and continuous monitoring, and prompt surgical intervention should be carried out whenever warranted.

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