

Extraovular PGE₂ and oxytocin-implicated uterine rupture during midtrimester termination of pregnancy

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Abstract

A case of uterine rupture caused by extraovular PGE₂ in a sequence with intravenous oxytocin during midtrimester termination of pregnancy is presented. It teaches us that when oxytocin is used after prostaglandins in patients having a scarred uterus, the lowest effective dose should be applied.

Extraovular administration of prostaglandin E₂ (PGE₂) together or in sequence with intravenous oxytocin infusion is an approved method for midtrimester termination of pregnancy carrying a substantial reduction in abortion time as compared to other methods [1,2]. In contrast to other methods of prostaglandin administration for midtrimester termination of pregnancy, such as intramuscular, extraovular, vaginal, or intra-amniotic PGF_{2α} with or without oxytocin, or intravenous or intra-amniotic PGE₂ [2,3], to the best of our knowledge, uterine rupture has not been described previously with extraovular administration of PGE₂ augmented with intravenous oxytocin infusion. We have recently seen such a case.

Case study

A 35-year-old woman (gravida 4, para 2, abortion 1) who had previously had one cesarean section and one vaginal delivery, required termination of pregnancy at the 24th week because of fetal demise. On the first day an extraovular solution of PGE₂ was instilled at a rate of 250 μg/hour. Two hours later, painful contractions started and she received intramuscular pethidine 75 mg. During the night the stimulation was stopped; the cervix was 1 cm dilated.

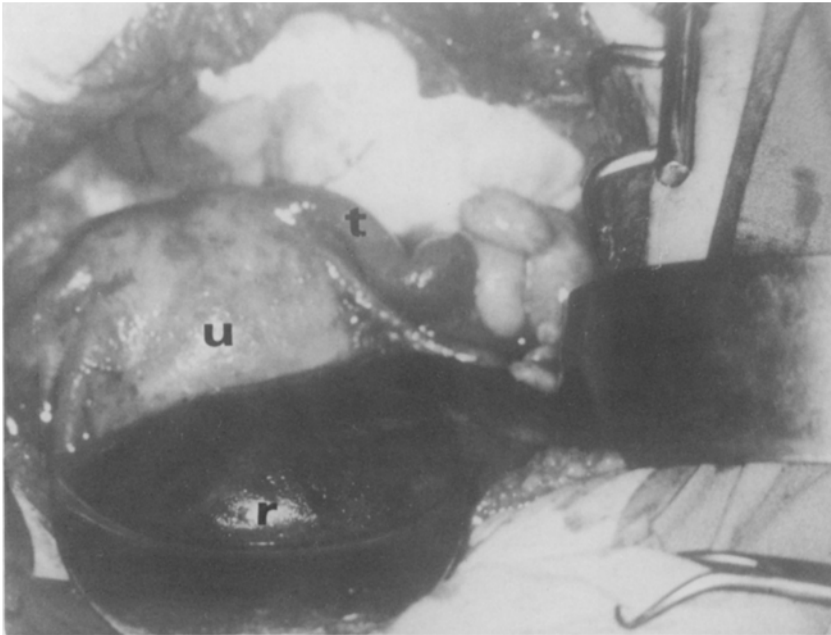


Figure 1. Laparotomy findings. Note the pregnancy contents visible through the loose peritoneum of the vesicouterine pouch. u = uterus, r = rupture site, t = uterine tube

On the second day extraovular PGE_2 was restarted followed by reappearance of contractions. At night, the instillation device failed; the cervix was still 1 cm dilated. On the third day, intravenous oxytocin infusion at a rate of 2 mIU/min was started and intracervical laminaria tents were inserted, without reappearance of painful contractions. During the night we again stopped the stimulation.

On the fourth day the patient developed painless rigidity with guarding and rebound in the lower abdomen, her blood pressure and pulse were normal and there was a slight temperature rise (37.8°C). Because of clinical signs of possible abdominal emergency an explorative laparotomy was performed. Laparotomy revealed an incomplete rupture of the lower segment at the site of the previous scar (Figure 1). The ruptured site resembled placenta percreta with bladder involvement. As a precaution, bilateral hypogastric artery ligation was performed and ureter catheters were inserted. After extraction of the fetus and the placenta, a simple uterine suture was performed. The postoperative period was uneventful.

Discussion

This is a first reported case of uterine rupture during midtrimester termination of pregnancy with extraovular PGE₂ and intravenous oxytocin. Although extraovular administration of PGE₂ augmented with intravenous oxytocin infusion is considered safe, the described case serves as a reminder that uterine rupture may occur. We assume that the rupture was caused by PGE₂, because the oxytocin dose was much lower than that usually required in midtrimester for establishment of effective contractions. We also believe that prophylactic ligation of hypogastric arteries allowed conservation of the uterus. Patients with a uterine scar are at higher risk for uterine rupture when prostaglandins are used for termination of pregnancy [3]. Nevertheless, prostaglandins could be safely used for midtrimester termination of pregnancy in patients with a previously scarred uterus [2]. We suggest that when oxytocin is used after prostaglandins in patients having a scarred uterus, the lowest effective dose should be applied. Unfortunately, although there are many methods for termination of pregnancy in midtrimester [2], the question of ideal management of failed prostaglandin abortions is as yet open.

References

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Resumé

L'article présente un cas de rupture de l'utérus provoquée par la PGE₂ extraovulaire au cours d'une séquence d'administration intraveineuse d'ocytocine lors d'une interruption de grossesse durant le premier trimestre. Il nous apprend que lorsque l'ocytocine est administrée après les prostaglandines chez des patientes dont l'utérus comporte une cicatrice, il convient d'administrer la dose efficace la plus faible possible.

Resumen

Se presenta un caso de ruptura uterina causada por PGE₂ extraovular en una secuencia con oxitocina intravenosa durante la terminación del embarazo en el segundo trimestre. Nos enseña que cuando se utiliza oxitocina después de prostaglandinas en pacientes cuyo útero presenta signos de cicatrización, debe aplicarse la dosis eficaz mínima.