Misoprostol Induced Uterine Rupture In A Primigravida

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Abstract

A primigravid uterus is rarely reported to rupture. Numerous reports and reviews have established the safety and efficacy of Misoprostol (PGE1) as an agent for termination of pregnancy and induction of labour. In developing countries use of PGE1 is more economical than PGE2. Rarely uterine ruptures are associated with its use, especially in multiparous women or those with scarred uterus. We report a rare case of uterine rupture in a primigravid woman with no previous uterine surgery who underwent termination of pregnancy with PGE1. She developed a silent lateral wall uterine rupture which was detected following delivery of the baby due to persistent tachycardia in the immediate post partum period. This case demonstrates the rare possibility of rupture even in unscarred uteri even with use of PGE1.

CASE REPORT

We report a case of a primigravid woman admitted at 33 weeks of gestation with severe pre eclampsia and severe intra uterine growth restriction. Though she had completed 33 weeks, the uterus was only 26 weeks size and the fetal weight was assessed to be less than 1 kg. The poor prognosis for the severely growth restricted fetus was explained to the woman and her husband. It was then decided to terminate the pregnancy using Misoprostol (PGE1) as the chances for survival of the fetus was poor. She was also initiated on seizure prophylaxis with Magnesium Sulphate infusion. Her blood pressure was controlled with Capsule Nifedipine given orally.

Cervical ripening was done using 3 doses of PGE1 25mcg intravaginally 6 hours apart. After 24 hours, the cervix was still unfavourable and it was decided to increase the PGE1 dose to 100 micrograms intravaginally every 6 hours for 3 more doses. Since the cervix was found to be unfavourable at the end of the second 24 hours an intracervical Foleys catheter was inserted (inflated to 30ml) along with 200 micrograms of PGE1 administered vaginally. The total dose of PGE1used was 575mcg in 48 hours. Six hours after Foleys catheter insertion the cervix was 50% effaced and 2 cm dilated; amniotomy was done and an oxytocin infusion was commenced with 2.5 units in 500ml normal saline. Labour progressed satisfactorily and she delivered vaginally a fresh still born boy of 1 kg. There was no excessive bleeding vaginally.

Following delivery of the placenta she was found to be pale with pulse rate of 100/min. The BP was 100/60mm Hg. There was a fall of haematocrit of only 1% from her initial haematocrit (Haemoglobin was 13.6 g% initially). There was no excessive vaginal blood loss and the uterus was well contracted and the contour was maintained. In view of the clinical pallor and tachycardia she was administered a unit of compatible blood (packed red cells 350ml). Her tachycardia seemed to worsen and BP was falling in spite of a second unit of blood transfusion and intravenous oxytocics. There was no free fluid intra-abdominally clinically and confirmed by bedside ultrasonography. There was a further rise of tachycardia to 140/min and a fall in BP after an hour of resuscitation. A sonogram was repeated which showed a well contracted uterus more to the right of midline with a well demarcated heterogenous hyperechoic mass on the left side of the uterus. No free fluid was noted in the abdomen.

In view of her hemodynamic deterioration and the probable broad ligament hematoma on ultrasound it was decided to perform a laparotomy. A contained broad ligament haematoma was found on the left side of the uterus with about 500g of blood clot. No hemoperitoneum was found. On evacuation of the haematoma a uterine rent was found on the left lateral wall, extending from the lower segment to just below the left cornu about 7 cm in length. The uterine vessels on the left were avulsed at the level of the lower segment from the uterine wall and had retracted into the

parametrium.

The uterovesicle fold of peritoneum was opened and bladder pushed down. Uterine rent was repaired in 2 layers using polyglactin braided sutures. The left uterine artery could not be identified as it had retracted into the parametrium. The retroperitoneum was opened and the anterior branch of the internal iliac artery was ligated. The ureter was traced and its integrity established.

DISCUSSION

Misoprostol has been used successfully for induction of labour in term pregnancy as well as for second and third trimester termination of pregnancy (1). Rupture of an unscarred uterus in a nulliparous woman is extremely rare and if it does occur it is associated with obstructed or prolonged labour or use of high dose of prostaglandins for induction of labour and history of previous uterine surgery (2, 3). Our patient did not have any of these risk factors. Progress of labour was satisfactory and the dose used was only 575 mcg in 48 hours. Her uterus was only about 26 weeks in size and higher doses have been reported to be used in second trimester terminations. Our decision to use a higher dose when she failed to respond to the first three doses of 25 mcg was based on the clinical size of the gravid uterus which in retrospect was a poor decision. Subsequent to this case our practice has changed. Rouzi reported use of a total 3600mcg of PGE1 over a period of 4 days for termination of pregnancy in a patient with history of three caesarean sections(4). Ümran Küçükgöz Güleç et al in their retrospective study reported use of up to 2400 mcg in unscarred uterus for termination of pregnancy up to 26 weeks of gestation without any uterine rupture in 193 patients with unscarred uterus(3). Interestingly 3 uterine ruptures were reported in the same study in those who have had previous caesarean delivery with doses around 800 mcg only. Pongsatha et al , in a review of termination of pregnancies in 741 women using up to 800mcg reported no uterine ruptures in both unscarred and scarred uteri (5).

Our patient did not have the classical features of ruptured uterus. She only had tachycardia which persisted. Moreover there was no free fluid in the peritoneum as well as no excessive bleeding vaginally. Only about 3 hours after the delivery of placenta she started complaining of left iliac fossa pain. Silent rupture such as this case may easily be missed if not for a high index of suspicion. A similar case is reported by Cash et al (6). Clinicians should be aware of the fact that even in unscarred uterus in primigravida and with use of lower dose of misoprostol uterine rupture can occur. This is especially important with advanced gestation even though uterine size may correspond to lesser gestational age. Beyond 24 weeks of gestation a reduced dose of misoprostol is recommended by WHO though the exact dose and dosing interval is not specified (7). A close watch on such patients' vital signs during and after delivery or termination of pregnancy would be invaluable and may save lives. Rupture should be a differential diagnosis in all cases where there is deterioration of maternal condition in the post partum period following use of misoprostol, even when classical signs are absent. This case reiterates that termination of pregnancies at late second and third trimesters should preferably be carried out in tertiary centre with facilities for emergency laparotomy.

CONCLUSION

Even in unscarred uterus probability of uterine rupture exists with the use of misoprostol. Dosage should be kept to the minimum and gestational age rather than the uterine size should guide the dosage. Clinical parameters like pulse and BP should not be disregarded both intrapartum and within the few hours after delivery.

References

1. Mathews JE. Misoprostol for induction of labour to terminate pregnancy in the second or third trimester for women with a fetal anomaly or after intrauterine fetal death: RHL commentary (last revised: 1 October 2010). The WHO Reproductive Health Library; Geneva: World Health Organization
2. Turgut A, Ozler A, Goruk NY, Karacor T, Yalinkaya A. Misoprostol-induced termination of second-trimester pregnancy in women with a history of cesarean section: a retrospective analysis of 56 cases. Ginekol Pol. Apr; 84 (4):277-80.
3. Kucukgoz Gulec U, Urunsak IF, Eser E, Guzel AB, Ozgunen FT, Evruke IC, et al. Misoprostol for midtrimester termination of pregnancy in women with 1 or more prior cesarean deliveries. Int J Gynaecol Obstet. Jan; 120 (1):85-7.
4. Rouzi AA. Misoprostol for labor induction in the second trimester in a woman with previous three cesarean deliveries and an intrauterine death of an anencephaly. Clin Exp Obstet Gynecol.40 (1):157-8.
5. Pongsatha S, Tongsong T. Outcomes of pregnancy termination by misoprostol at 14-32 weeks of gestation: a 10-year-experience. J Med Assoc Thai. Aug; 94 (8):897-901.
6. Cash S, Hodge W, Kuah S. An unusual clinical presentation of uterine rupture of an unscarred uterus. Aust N Z J Obstet Gynaecol. Dec; 51 (6):564-5.
7. Tang J, Kapp N, Dragoman M, de Souza JP. WHO recommendations for misoprostol use for obstetric and gynecologic indications. Int J Gynaecol Obstet. May; 121 (2):186-9.

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