

Misoprostol for mid-trimester fetal demise with a prior cesarean

Background

Mid-trimester induction may be indicated for fetal demise, life-threatening maternal pregnancy complications, or lethal fetal anomalies. At term, induction of labor in women with a prior cesarean, and especially those whose labors are induced with prostaglandin preparations, have been associated with a greater risk of uterine rupture. However, the risk of prostaglandins in women with a scarred uterus does not seem to be similar in the second trimester (ref 1-5).

Both misoprostol and dinoprostone have been studied in such women, and, because of low cost and a more favorable side effect profile, misoprostol seems to be the optimal agent. While oxytocin is an option in the second trimester, larger doses and longer induction time may be necessary. Comparisons of misoprostol and oxytocin document their comparable safety and efficacy at this gestational age in women without prior uterine surgery (6).

If 414 women with a history of cesarean delivery were given misoprostol for second-trimester abortion, one would experience uterine rupture. (7) Advanced gestational age, high gravidity (≥ 3 pregnancies) or uterine anomalies may also increase risk of rupture.

Management

1. Women between 16 weeks 0 days and 27 wks 6 days gestation with prior cesarean delivery who are candidates for mid-trimester induction will be admitted to L&D for induction with misoprostol.
2. Women will be excluded from this protocol if they have an overdistended uterus (multiple gestation, polyhydramnios); at high risk of uterine rupture (a prior classical or T-shaped uterine incision, or extensive transfundal uterine surgery [eg, myomectomy]); or have a known sensitivity to misoprostol.
3. Maternal vital signs and cervical examination will be documented and intravenous access will be established.
4. Misoprostol tablets (Cytotec) equivalent to a dose of 400 mcg will be inserted high in the posterior vaginal fornix without the use of lubricant.
5. Patients will remain recumbent for 30 to 60 minutes following placement of the tablets, but thereafter may ambulate as desired and take oral fluids ad lib. Uterine monitoring is optional. (This dose of misoprostol will commonly result in uterine tachysystole, but without the same implications as at term with a viable pregnancy.) Maternal vital signs should be recorded as per routine.
6. The same dose of misoprostol, 400 mcg, may be administered vaginally again in 6 hours, and every 6 hours, up to 6 doses. Delivery should be expected within 24 hours in up to 90% of patients. The remaining women should be expected to deliver within 36-48 hours without addition of a second agent. Amniotomy may be performed at any time at the discretion of the provider.
7. If for whatever reason the provider desires to change the induction agent to oxytocin, an interval of 4 hours since the last misoprostol dose should be allowed. Misoprostol and oxytocin should not be used concomitantly, nor should misoprostol and dinoprostone (Cervidil, Prepidil) be used together.

8. Any type of maternal analgesia (intravenous narcotic or epidural) is appropriate.
9. Uterine rupture should be suspected in a woman with severe or persistent abdominal pain and signs of intraabdominal bleeding. Prompt laparotomy is indicated in patients with a presumptive diagnosis of uterine rupture.
10. Delivery of the fetus will commonly occur precipitously.
11. The placenta is often delivered within 60 minutes following delivery of the fetus and expectant management is usually appropriate unless excessive maternal hemorrhage occurs prior to that time. If two hours have passed and the placenta has not delivered, an infusion of oxytocin 30 units in 500 mL of NS is indicated. If the placenta is not delivered after infusion of oxytocin or the woman starts bleeding excessively, manual or surgical removal of the placenta may be required. Oxytocin may be administered following delivery of the placenta at the discretion of the provider.

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