Case Report

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Uterine Rupture after Misoprostol Use for Termination of Pregnancy in Second Trimester with Previous Caesarean Section: A Case Report

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Abstract

Modalities for termination of pregnancy may result in some adverse effects especially uterine rupture in women with the previous cesarean section. Here we report uterine rupture in the 23rd week of pregnancy after Misoprostol uses for abortion induction in second pregnancy with the previous cesarean section. The rupture was repaired via laparotomy. Totally, our results demonstrated that further cautions should be provided in women presenting for abortion in second pregnancy trimester especially in previous cesarean section and with dose adjustments and some other strategies to attain higher safety in this era and for reduction of possible uterine ruptures.

Keywords: Misoprostol; Uterine rupture; Termination of pregnancy; Caesarean section; Second-trimester abortion

Introduction

Termination of pregnancy in first or second trimester is an important issue in obstetrics with a wide range of indications such as intrauterine foetal death, chromosomal abnormalities, maternal comorbidity and obstetric indications [1,2]. Various types of procedures including medical and surgical methods are available for termination of pregnancy. Suction-aspiration or vacuum aspiration is the most common surgical method of induced abortion. Medical abortions are those induced by vaginal or oral administration of prostaglandins E1 and E2 analogs, and injection of intravenous oxytocin and prostaglandin F2, and injection of the hypertonic saline solution in amniotic fluid [3-5]. Misoprostol as a prostaglandins E1 analog has been widely used worldwide for termination of pregnancy. Here we report uterine rupture after Misoprostol uses for termination of pregnancy in the second trimester.

Case Presentation

The patient was a 27-year-old woman in the 23rd week of her second pregnancy with a history of the previous elective cesarean section, hospitalized for severe oligohydramnios with unknown etiology and no history of fluid leakage. In her previous surgical history, she mentioned laparoscopic cholecystectomy 10 years ago. Considering her medical history and normal kidney and bladder in fetal ultrasound, we did not have proved data for her severe oligohydramnios. Amnio-infusion was performed to prevent foetal cord compression and to assess foetal structures. During the procedure, she experienced fluid leakage out from the vagina which was noted in the ultrasound and therefore the diagnosis of rupture of membranes was established. Pregnancy termination was indicated due to PPROM (Premature Preterm Rupture of Membrane). She was transferred to the labour ward and four divided doses of Misoprostol 200 µg every 6 hours (with monitoring of uterine contractions) were used. After a total of 800 µg Misoprostol, suddenly she experienced a severe acute abdominal pain. She had no vaginal bleeding. Immediately she was transmitted to operation room with suspicion of uterine rupture. After incision, about 500 cc blood and the clot was suctioned from the abdominal and pelvic cavity. The uterus was ruptured from hysterectomy incision and extended to the left lateral side which was successfully repaired and left uterine artery was ligated and the uterus was fortunately preserved. Foetus was extracted and the placental and membranes were removed completely. The patient was then transferred to the ICU (Intensive Care Unit) and received three red pack cells and two FFP (Fresh Frozen Plasma) units. In post-operative follow up ultrasound assessment, there was no free fluid in the abdominal cavity and she was discharged well after 5 days from the hospital.

Discussion

Here we reported a pregnant woman with an indication of pregnancy termination who experienced the adverse effect of Misoprostol as uterine rupture. Misoprostol may amplify the risk of uterine rupture in patients with a scarred uterus [6]. However, the prescribed dose is an issue of importance in this era and it was found that adopting a low-dose Misoprostol approach may be potentially both effective and safe in the management of second-trimester abortions in women with repeated cesarean

deliveries [7]. Rouzi, et al. reported a patient who received two doses of 200 µg Misoprostol tablets vaginally 12 hours apart and then two doses of 400 µg Misoprostol tablets were given vaginally 12 hours apart. There were no uterine contractions and finally, the patient received five doses of 400 µg Misoprostol tablets vaginally every eight hours and responded after the last dose and the fetus with the placenta aborted completely without complications [8]. Such adopting dosages may be easily used in patients with previous cesarean sections to reduce the potential risk in this era.

Nayki, et al. reported a 23-year-old woman with a prior cesarean section presenting at 26th gestational weeks attending for pregnancy termination due to fetal abnormality [9]. She was given 200 µg Misoprostol vaginally every 3 hours until the regular contractions initiated and after the 4th dose, she aborted completely 2 hours later after the last dose. The authors found that uterine rupture was seen at the previous cesarean section scar by manual vaginal examination. Similar to our reported case, she underwent emergency laparotomy and the uterus was repaired. Petri, et al. reported a 27-year-old woman with a previous cesarean section with a request for termination of pregnancy in a 17th gestational week [10]. By use of vaginal Misoprostol for two days the vaginal delivery failed and the fetus resulted in uterine rupture and blood loss that was managed by laparotomy as well as our reported case.

Berghahn, et al. reported a 23-year-old woman with two previous cesarean sections presenting at 23rd gestational week for pregnancy termination that similar to our study led to uterine rupture [11]. A systematic review by Berghella, et al. showed that incidence of uterine rupture due to second-trimester Misoprostol termination is 0.4% in women with one prior low transverse, 0% in those with two prior low transverse and 50% in those with a prior classical cesarean delivery [12]. They reported that none of the cases of uterine rupture are associated with hysterectomy. In our study also hysterectomy was not carried out and the patient was advised for elective early term cesarean section in future pregnancy to avoid further ruptures. Interestingly Goyal, et al. reported that risk of uterine rupture among women with previous cesarean section undergoing an abortion in the second trimester using Misoprostol is less than 0.3% that may be acceptable to both patients and physicians [13]. However, as reported by Gomez, et al. there is little evidence regarding induction of labor and delivery in 2nd and 3rd trimester of pregnancy and the studies are differed in methodological and outcome measurement issues, making direct comparisons difficult [14].

Totally, it appears that Misoprostol is acceptable for abortion induction in women with a previous cesarean section in the second trimester; however, it is not risk-free. The complications though are uncommon but, the medical team should be prepared to decrease the risk and consider prevention strategies precisely for maternal safety. Unexpected abdominal pain or sudden alteration in vital signs may be the warning sign for further careful monitoring.

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