Rectal Administration of Misoprostol for the Management of Retained Placenta — A Preliminary Report

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Key Words
misoprostol;
retained placenta;
vaginal delivery

Background. Retained pla centa is one of the serious complications of childbirth, and misoprostol is known to be a potent uterotonic agent. Therefore, we hypothesized that rectal misoprostol also may facilitate placental separation in women with retained placenta by its ability to increase uterine contractility.

Methods. The placenta was diagnosed as retained if it was not expelled within 40 minutes after vaginal birth. Then, 800 µg of misoprostol was inserted rectally and the patient observed thereafter.

Results. A total of 18 parturients who had retention of the placenta were studied; all the placenta were spontaneously expelled within 35 minutes. The side effects involved included nausea 17%, vomiting 11%, diarrhea 22%, shivering 33%, and pelvic cramping pain 44%. All these discomforts resolved within 24 hours.

Conclusions. Our study demonstrated that misoprostol per rectum is a safe and effective technique and may be a useful alternative to manual removal of retained placenta. [Chin Med J (Taipei) 2001; 64:721-724]
who were parous two. All of the new borns weighed between 2700 and 3850 g. None of the patients had undergone previous cesarean section. The blood pressures of these women were within reference range (100-138/70-88 mmHg). None of the patients had history of cardiac disease or allergy to misoprostol. Routine ultrasound scans were performed to observe the general fetal and placental status before delivery. Informed consent was obtained from all patients before delivery. This study was approved by the departmental ethics committee.

After delivery of the new born, the management of the third stage of labor in these three institutions usually included expectant spontaneous expulsion. If no bleeding occurred, both the patient and physician had to wait until separation of the placenta occurred. Before placental expulsion, no oxytocin or ergometrine was given. The placenta was diagnosed as retained if it was not expelled within 40 minutes after delivery of the infant. After this period, the attending physician or an attending obstetrician applied gentle traction on the umbilical cord and light suprapubic pressure to remove the placenta. If these actions failed, 800 µg of misoprostol (4 tablets) was inserted rectally. The physician then observed for signs of placental separation such as sudden gush of blood, umbilical cord protruding from the vagina, and changes in the uterine size and position. When the signs of placental separation occurred, gentle traction of the cord for final expulsion was done. Blood loss during the third stage of labor was measured by the obstetrician, who collected all blood loss in a basin and weighted the gauze. Postpartum endometritis was diagnosed on the basis of temperature of at least 38.0 °C on two occasions 4 hours apart, plus uterine tenderness, foul lochia, or a white blood cell count greater than 15,000/mm³.

**Results**

In all 18 parturients, spontaneous expulsion of the placenta developed in an average interval of 12 minutes (range from 5 to 35 minutes) after rectal insertion of misoprostol. Thus, no patient had manual removal of the placenta. Thereafter, spontaneous uterine contractions were noted in as so ciating with a palpably firm uterus. No patient received any further uterotonic management. The average estimated blood loss was 450 mL (range from 350 to 600 mL). None of these patients needed blood transfusions. The side effects of misoprostol in cluded nausea (17%), vomiting (11%), diarrhea (22%), shivering (33%), and pelvic cramping pain (44%). All of the above symptoms were mild and resolved within one day. Routine analgesics and antibiotics were given. No patient developed postpartum endometritis or febrile morbidity.

**Discussion**

The third stage of labor is usually managed by observation until separation and expulsion occur, followed by the administration of intravenous oxytocin to reduce hemorrhage. According to a study by Combs et al., the median duration of the third stage was 6 minutes in 12,979 deliveries. In some women, spontaneous separation of the placenta did not occur after vaginal delivery due to unknown etiology and yielded retention of adherent placenta. The time interval needed to elapse before the diagnosis of retained placenta has not been clearly defined in the literature. Some authors recommended the manual removal of the retained placenta when spontaneous separation of the placenta did not take place within 15 minutes after delivery. How ever in recent obstetric practice, manual removal of the placenta is more acceptable if there is failure to deliver the placenta 30 minutes or more after the delivery of the newborn. In our study, we chose to wait for 40 minutes, which is a relatively long period, in order to eliminate late spontaneous expulsion of the placenta.

The injection of oxytocin into the umbilical vein has been suggested as a simple and safe method to manage retained placentas. However, there are some discrepancies in literature regarding the efficacy of this procedure. Several researchers considered it very effective in the clinical management of retained placentas. On the other hand, some in vestigators found the therapy ineffective. Differences in the techniques in volving the injected volume, con traction,
and route of oxytocin ad min is tration may have re- 
sulted in the in con sistent out comes.11 We be lieve that 
less in va sive pro ce dure would be of ma jor ben e fit to 
women in re duc ing the in ci dence of man ual re moval of 
re tained pla centa.

Misoprostol, a syn thetic pros ta glan din E1 ana logue, 
has been proven to be a po tent ute rotonic agent. Ab sorp-
tion of misoprostol is very rapid, and has been iden ti fied 
in the se rum within 2 min utes af ter oral ad min is tra tion.12 
When given orally, the peak con cen tra tion of miso-
pro stol acid, an ac tive me tab o lite, is 12 min utes.13 The 
rec tal route has the ad van tage of easy ad min is tra tion, 
rapid ab sorp tion, and no risk for pa tients un der gen eral 
an es the sia. Re cently, O’Brien et al.14 re ported ex cel lent 
results after misoprostol rectally for the treat ment of 
post partum hem or rhages. In our in ves ti ga tion, we de-
mon strated that the rec tal ad min is tra tion of 800 
µg of misoprostol was very ef fe ctive for the ex pul sion of re-
tained pla cen tas af ter ter vag i nal de liv ery. All 18 women 
had spon ta ne ous sep a ra tion and ex pul sion of the pla-
centa within 35 min utes after the rec tal inser tion of 
misoprostol, with good tol er ance, ac cept able side ef fects 
and no com pli ca tions. The mech a nism of this pro cess is 
thought to be by the po tent ute rotonic prop erty of 
misoprostol, with good tol er ance, ac cept able side ef fects 
and no com pli ca tions. We ac knowl edge that our cases were too few to pro vide 
ade quate in for ma tion for this con clu sion. Our pre li-
nary study dem on strated that 800 µg of misoprostol per 
rec tum was a safe and ef fe ctive tech nique, and was a 
use ful al ter na tive to man ual re moval of the re tained pla-
centa. To our know ledge, this arti cle is the first to re port 
use of rec tal misoprostol for re tained pla centa. How ever, 
fur ther ran dom ized con trolled tri als with greater num bers 
of pa tients are war ranted to de ter mine the op ti mal dose 
and tim ing of misoprostol ad min is tration.

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