

# Misoprostol in uterine atony: A report of 2 cases

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## Summary

Four hundred micrograms oral misoprostol, repeated with 2-hour intervals, may show a rapid beneficial affect in uterine atony treatment.

**Key words:** Misoprostol; Uterine atony.

## Introduction

Misoprostol, a synthetic PGE<sub>1</sub> analogue has been used in peptic ulcer treatment as a cytoprotective agent. However, since the uterine contractile activity of misoprostol was emphasized, many authors have concentrated on its primary usage in obstetrics, mainly in cervical ripening and labor induction. We tried to evaluate the most prominent adverse effects of misoprostol, which are tachysystole and hypertonus, in managing a severe complication of obstetrics, uterine atony, in two patients.

## Case reports

### Case 1

A case of an 18-year-old, G 3, P 0, twin pregnancy at 39 weeks' diagnosed as severe preeclampsia and on MgSO<sub>4</sub> therapy for four days, was referred to our hospital with cough and fever. On admission she had a temperature of 38.2°C, blood pressure of 150/100 mmHg and 300 mg/dl proteinuria. On physical examination she had crepitation in the right hemithorax and was diagnosed with pneumonia. Shortly after admission she developed acute fetal distress and delivered two female infants by cesarean section under general anesthesia. The newborns had an Apgar score of 9 and weighed 2,420 and 1,815 g, respectively.

The patient was taken to her bed with minimal bleeding. An hour later profuse vaginal bleeding developed due to uterine atony. Oxytocin infusion was increased to 5 U/hr with a poor response and her hemoglobin level decreased from 12.5 g/dl to 8.1 g/dl within an hour. Methylergobasine was not used because of hypertensive attacks of 190/120 mmHg. Misoprostol 400 µg was given orally with a sip of water and was repeated twice with 2 hour intervals following her informed and written consent. Within 30 minutes of the first dose, vaginal bleeding began to decrease and her hemoglobin level remained steady at 7.4 g/dl. There was no need for any more doses after the uterine muscle gained contractility steadily with the third dose.

### Case 2

A 23-year-old nulliparous patient at 37 weeks' gestation was admitted to our hospital for delivery. She had been on ritodrine hydrochloride therapy with the diagnosis of preterm labor at the

28<sup>th</sup> week of pregnancy. She gave birth to a 3,250 g female newborn by cesarean section due to progress failure under general anesthesia. The fifth minute Apgar score was 9. One hour after delivery, uterine atony developed and no significant response was noted within 30 minutes despite increased oxytocin infusion of 5 U/hr and 0.250 mg methylergobasine which was applied intramuscularly. Her hemoglobin level decreased from 14.2 g/dl to 10.2 g/dl an hour after the start of oxytocin infusion. Misoprostol 400 µg was given orally with a sip of water and was repeated two hours later following her informed and written consent. Within 30 minutes of the first dose, vaginal bleeding decreased significantly and her hemoglobin level remained steady at 8.4 g/dl. She did not need further misoprostol after the second dose.

## Discussion

Uterine atony is the most common cause of postpartum hemorrhage, and distended uterus, high parity, prolonged or rapid labor, tocolysis or labor induction, cesarean section and general anesthesia are the risk factors.

Generally oxytocin given at 2-5 U/hr through an i.v. line is satisfactory in the prevention and treatment of atony. If the first-line oxytocin infusion is not effective 0.2 mg ergonovine derivatives as an i.m. injection is the next approach. However, ergot preparations are highly associated with hypertensive episodes. Recently, prostaglandin F<sub>2α</sub> has been used intramuscularly; some prefer direct injections into the myometrium. Although prostaglandin E<sub>2</sub> vaginal suppositories have been used in several studies, they have the disadvantage of being washed-out by profuse hemorrhage. In cases unresponsive to medical treatment, surgical intervention becomes mandatory.

Misoprostol, a cytoprotective synthetic prostaglandin E<sub>1</sub> analogue, has been used for cervical priming prior to vacuum aspiration in early gestations and prior to labor induction as well. One common adverse effect of misoprostol is uterine hypercontractility. It can cause tachysystole and hyperstimulation in up to 38% of patients [1]. Incidence of uterine hypercontractility increases as the misoprostol dose increases, having a cumulative effect. This fact encouraged us to use 400 µg doses, repeated at 2-hour intervals, to give those patients a last chance

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before surgical management. We used a total of 800 µg and 1,200 µg, respectively, in two patients, whereas 1,600 µg has been used safely with other indications in the literature [2].

We did not encounter any side-effects such as nausea, vomiting, diarrhea, hypotension, fever, headache or abdominal pain in either patient. However, misoprostol should be used with caution in patients with cardiac or pulmonary diseases.

This is the first report in the literature on the usage of misoprostol in uterine atony. It is a promising agent in obstetrics and worth further studies.

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