# The Association between Rectal Misoprostol and Hemorrhoids in Obstetric Patients

Dear Editor,

Primary postpartum hemorrhage (PPH) is still the most important cause of maternal mortality worldwide, particularly in low-resource countries where there are inadequate healthcare services and a lack of skilled medical personnel.[1] The World Health Organization defines PPH as loss of blood more than 500 mL after a vaginal birth or 1000 mL following a cesarean section (CS). Also, it is defined as a 10% drop in hemoglobin from the baseline or changed vital signs caused by any level of PPH.[2] It is defined as primary PPH, when it occurs within 24 h of delivery, and referred to as late or secondary PPH, when it happens between 24 h and 6 weeks postpartum.[3]

Failure of the uterus to contract after delivery is called uterine atony and is a common etiology of PPH. The methods for managing bleeding due to this cause are uterotonic drugs, including additional oxytocin. Misoprostol can be given rectally to women who are unable to take oral medications, who are vomiting, who are under general anesthesia, or who have excessive vaginal bleeding.[4] Misoprostol is clinically similar to oxytocin when used to stop heavy PPH caused by uterine atony in patients who have been treated with oxytocin prophylactically during the third stage of labor.[5]

Misoprostol appears in many studies to be effectively absorbed from rectal, vaginal, and oral mucosa. It appears to be an effective therapy for postpartum bleeding not responding to oxytocin and ergometrine when given rectally; therefore, it might be an alternative to parenteral prostaglandins (PGs) or at least decrease the number of patients requiring this invasive therapy. Also, it is an inexpensive and stable drug.[6] In general, the most commonly reported side effects of misoprostol are mild and include diarrhea, nausea, vomiting, abdominal pain, dyspepsia, flatulence, constipation, shivering/chills, hyperthermia, headache, breakthrough bleeding, and menstrual dysfunction. Less common adverse effects are lethargy, weakness, syncope, and vertigo.[7]

For the treatment of postpartum bleeding, The American college of obstetricians and gynecologists recommends a dose of 800 to 1000 μg rectally once. Hemorrhoids are one of the causes of lower gastrointestinal bleeding.[8] PPH and atony are among the most common obstetric complications.

In this study, we assess the association of prophylactic and therapeutic rectal misoprostol with hemorrhoids in obstetric women. The study was carried out on women either in the labor room or operative theater at Babylon Teaching Hospital for Maternity and Children and at Al-Salam Private Hospital, while others were presented for follow-up during the postpartum period at a private clinic and outpatient clinic, including 150 women through a period from March 21, 2022, to February 21, 2023.

Inclusion criteria included patients aged 15–45 years, past history of primary PPH, and risk factors for PPH (like polyhydramnia, prolonged labor, grand multiparity, multiple gestations, intrauterine fetal demise, preeclampsia, and cesarean delivery). In addition, the postpartum period includes both normal vaginal delivery (NVD) and CS. The exclusion criteria included patients with previous hemorrhoids, patients with a history of asthma, and patients with a history of allergy to PG.

A total of 150 obstetric women were enrolled in this study. Some of them were either in the labor room or operative theater, while others were presented for follow-up during the postpartum period and received rectal misoprostol. They were divided into two groups, each of which consisted of 75 women, the first group: the study group was those without a history of hemorrhoids and who had a history of primary PPH or had a risk factor for PPH. They received 800 mg of prostaglandin E1 analog rectally as second-line treatment or prevention of PPH and were followed up until discharge, as those are risky patients for such a condition. The other 75 women are the control group who had no risk or even developed PPH, did not receive rectal misoprostol, and had no previous history of hemorrhoids.

All patients were evaluated through full history and physical examination, including age, gravidity, parity, body mass index, mode of delivery whether NVD or by CS, any past history of PPH or any risk factor of PPH, past history of hemorrhoids as those patients were excluded from the study, any medication received, and any allergy to such medication, and were followed from first 24 h after delivery until six weeks postpartum.

Statistical analysis was carried out using SPSS version 27. (SPSS, IBM Company, Chicago, IL, USA). Categorical variables were presented as frequencies and percentages.

Continuous variables were presented as means ± SD. Student *t* test was used to compare means between two groups. Pearson chi-square test and Fisher's exact test were used to find the association between categorical variables. A *P* value of ≤0.05 was considered significant.

The distribution of study participants according to study variables, including age, gravida, parity, and mode of delivery, is illustrated in Table 1. The results revealed that the number of patients who received prophylactic therapy was 38 patients (50.7%), and the number of those who received therapeutic drugs was 37 patients (49.3%), as shown in Table 2. Regarding the distribution of patients with PPH according to the type of delivery ($N = 75$), the results found that 64% of patients were normal vaginal deliveries, and 36% of patients were CSs. Twenty-two patients (29.33%) developed hemorrhoids in the study group who received misoprostol, compared to only two women (2.7%) in the control group [Figure 1]. This result was compatible with the finding that the side effects of misoprostol include abdominal pain, gas (flatulence), diarrhea, severe allergic reaction, anaphylaxis, abnormal heart rate, gastrointestinal bleeding, and rectal disorders (hemorrhoids, abscesses, fissures, or cancer).[4,7]

The results also showed that 16 (72.72%) patients presented with moderate symptoms and pain, and only two (9.1%) patients presented with severe pain and discomfort. The other four (18.18%) patients have milder symptoms, as shown in Table 3.

**Table 1: Distribution of study participants according to study variables ($N = 150$)**

| Study variables | Number | % |
|---|---|---|
| Age (years) | | |
| <20 | 6 | 4.00 |
| 20–30 | 78 | 52.00 |
| 30–40 | 53 | 35.30 |
| 40–50 | 13 | 8.70 |
| Total | 150 | 100.00 |
| Gravida | | |
| G1–G2 | 33 | 22.00 |
| G3–G4 | 96 | 64.00 |
| G5–G6 | 21 | 14.00 |
| Total | 150 | 100.00 |
| Para | | |
| P1–P2 | 68 | 45.30 |
| P3–P4 | 70 | 46.70 |
| P5–P6 | 12 | 8.00 |
| Total | 150 | 100.00 |
| Mode of delivery | | |
| Normal vaginal delivery | 99 | 66.00 |
| Cesarean section | 51 | 34.00 |
| Total | 150 | 100.00 |

The majority of patients 15 (68.2%) from the study group presented in the first 10 days after delivery, which may be due to the time of removing stitches, while the other five (22.27%) presented at different times within the six weeks postpartum. Only two (9.1%) patients were presented in the first three days after delivery because of severe pain and discomfort [Figure 2]. The hemorrhoids developed in 63.63% (14) of patients who delivered by NVD and 36.36% (8) of patients who delivered by CS in the study group, compared to only two women (2.66%)

**Table 2: Distribution of patients with postpartum hemorrhage according to type of treatment ($N = 75$)**

| Type of treatment | Number | % |
|---|---|---|
| Prophylaxic | 38 | 50.7 |
| Therapeutic | 37 | 49.3 |
| Total | 75 | 100.0 |

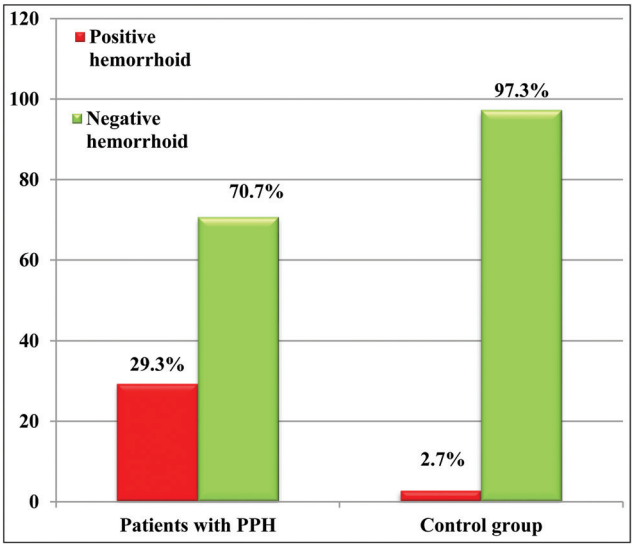


**Figure 1:** Comparison between patients (study group) and control group according to hemorrhoid occurrence ($N = 150$)

**Table 3: Distribution of participants with hemorrhoids according to severity of symptoms ($N = 150$)**

| Study group | | |
|---|---|---|
| **Severity of hemorrhoid symptoms** | **Number** | **%** |
| Mild | 4 | 18.20 |
| Moderate | 16 | 72.70 |
| Severe | 2 | 9.10 |
| Total | 22 | 100.00 |
| **Control group** | | |
| **Severity of hemorrhoid symptoms** | **Number** | **%** |
| Mild | 0 | 0.00 |
| Moderate | 2 | 100.00 |
| Severe | 0 | 0.00 |
| Total | 2 | 100.00 |

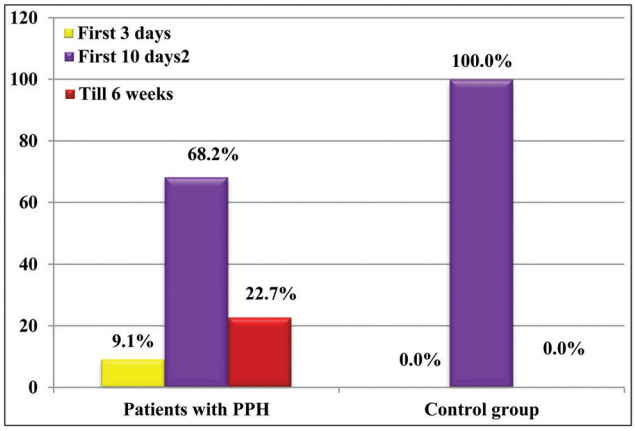


**Figure 2:** Distribution of study participants with hemorrhoids and control group according to time of presentation ($N = 150$)

**Table 4: Distribution of study participants with hemorrhoids according to type of delivery ($N = 24$, $P = 0.536$)**

| Postpartum hemorrhage on treatment (study group) | | |
|---|---|---|
| **Type of delivery** | **Number** | **%** |
| NVD | 14 | 63.60 |
| CS | 8 | 36.40 |
| Total | 22 | 100.00 |
| **Control group** | | |
| **Type of delivery** | **Number** | **%** |
| NVD | 2 | 100.00 |
| CS | 0 | 0.00 |
| Total | 2 | 100.00 |

**Table 5: The association between hemorrhoid occurrence and type of treatment including (prophylaxic or therapeutic) in study group**

| Study variables | Type of treatment | | Total ($N = 150$) | $P$ value |
|---|---|---|---|---|
| | Prophylaxis dose ($N = 38$) | Therapeutic dose ($N = 37$) | | |
| Hemorrhoid | | | | 0.665 |
| Positive | 12 (31.6) | 10 (27.0) | 22 (29.3) | |
| Negative | 26 (68.4) | 27 (73.0) | 53 (70.7) | |
| Total | 38 (100.0) | 37 (100.0) | 75 (100.0) | |

in the control group who delivered by NVD developed hemorrhoids with no cases of hemorrhoids (0%) in the CS [Table 4], and this may be due to the small sample size. Table 5 shows that there is no significant difference between the incidence of hemorrhoids in the prophylactic group, 12 (31.6%) patients, and the therapeutic group, 10 (27%) patients.

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## Conflicts of interest
There are no conflicts of interest.

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## References

1. Zenebe GA, Zenebe WA, Ewunie TM, Dires S. Primary postpartum hemorrhage and associated factors among delivering women in Gedeo Zone, Southern Ethiopia. Front Med 2023;10:1096501.
2. World Health Organization. WHO Recommendations Uterotonics for the Prevention of Postpartum Haemorrhage: Web Annex 7: Choice of Uterotonic Agents. Geneva: World Health Organization; 2018.
3. Gülmezoglu AM. WHO Guidelines for the Management of Postpartum Haemorrhage and Retained Placenta. Geneva: World Health Organization; 2009.
4. Hofmeyr GJ, Gülmezoglu AM, Novikova N, Linder V, Ferreira S, Piaggio G. Misoprostol to prevent and treat postpartum haemorrhage: A systematic review and meta-analysis of maternal deaths and dose-related effects. Bull World Health Organ 2009;87:666-77.
5. Kaiser J, Royer PA. Profound hyperthermia after postpartum rectal misoprostol administration. Obstet Gynecol 2016;127:1067-9.
6. O'Brien P, El-Refaey H, Gordon A, Geary M, Rodeck CH. Rectally administered misoprostol for the treatment of postpartum hemorrhage unresponsive to oxytocin and ergometrine: A descriptive study. Obstet Gynecol 1998;92:212-4.
7. Krugh M, Patel P, Maani CV. Misoprostol. In: StatPearls. Treasure Island, FL: StatPearls Publishing; 2025. Available from: https://www.ncbi.nlm.nih.gov/books/NBK539873/. [Last accessed on 11 Dec 2024].
8. Khassaf MB, Qasim BJ. Histopathological assessment of colonoscopic biopsies in patients with bleeding per rectum. Med J Babylon 2022;19:203-9.



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