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Role of Misoprostol in Open Myomectomy in Females Attending a Tertiary Care Hospital

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ABSTRACT

Background: The benign tumors that affect women most frequently are uterine leiomyomas. In routine practice, misoprostol is not applied during or before open myomectomy. Literature has shown that misoprostol can be beneficial and may effectively reduce blood loss. **Objectives:** To determine the outcome of misoprostol administration in females undergoing open myomectomy for intrauterine fibroids. **Study design & Setting:** This descriptive study was conducted at Department of Obstetrics & Gynecology, MNCH Hospital, PIMS, Islamabad from 1st January 2024 to 1st July 2024. **Methodology:** A total of 125 patients scheduled for open myomectomy were included in the study. A blood sample was taken to assess hemoglobin levels. Patients received 400 µg of vaginal misoprostol an hour before surgery, which was performed by a single team under spinal anesthesia. Operative time and intraoperative blood loss were measured, and post-surgery hemoglobin levels were reassessed. If the hemoglobin drop exceeded 2 g/dl, a blood transfusion was administered. **Results:** The study included 125 participants with a mean age of 29.48±6.69 years and a mean BMI of 24.66±3.66 kg/m². The mean fibroid size was 9.90±2.98 cm, and the mean duration of fibroids was 28.44±18.24 months. The mean intraoperative blood loss was 628.52±370.93 ml, with 56% of participants experiencing blood loss ≤500 ml. The mean surgery duration was 140.09±53.38 minutes, with 56.8% of surgeries completed within 150 minutes. The mean hemoglobin drop was 1.578±0.87 g/dl, and 26 patients (20.8%) required blood transfusions. No significant adverse effects related to misoprostol were reported.

INTRODUCTION

Uterine leiomyomas are the most prevalent benign tumors in women. Leiomyomas can manifest symptoms in up to fifty percent of those affected, presenting with heavy menstrual flow, pressure feelings, pelvic pain, urinary issues, or infertility.[1] Myomectomy, performed using either an open or laparoscopic technique, is an efficacious surgical intervention for symptomatic leiomyomas. Nevertheless, the surgery frequently correlates with intraoperative hemorrhage, potentially leading to anemia, necessitating blood transfusions and a lengthy hospitalization.[2] Excessive hemorrhage is a considerable risk associated with myomectomy, potentially necessitating hysterectomy.[3,4]

Misoprostol is a synthetic equivalent of the naturally produced prostaglandin E1 and has emerged as significant changes in obstetric and gynecological therapy. It has been demonstrated to diminish intraoperative hemorrhage after the surgical removal of leiomyomas. The postulated pathways of action of misoprostol following myomectomy are uterine vasoconstriction and diminished uterine arterial blood flow.[5] Misoprostol works by stimulating uterine smooth muscle contractions, leading to vasoconstriction of the uterine vessels. This vasoconstriction reduces blood flow to the myometrium, thereby minimizing intraoperative blood loss during myomectomy.[6] Additionally, misoprostol promotes uterotonic effects that maintain sustained contractions, further aiding in hemostasis. The decrease in uterine arterial blood flow contributes to reduced bleeding risks. This mechanism makes misoprostol a valuable adjunct in managing blood loss during surgical removal of fibroids.[7] It is relatively inexpensive, has a long shelf life, and is commonly used in non-pregnant women for various gynecological indications, including cervical ripening prior to hysteroscopy and intrauterine device insertion.[8] Its safety profile is favorable at a 400 µg dose, with mild and self-limiting side effects such as transient fever being reported at higher doses.[9]

The rationale of this study was to determine the outcome of misoprostol administration in females undergoing open myomectomy for intrauterine fibroids. In routine practice, misoprostol is not commonly applied during or

before open myomectomy. However, literature indicates that misoprostol can be beneficial in effectively reducing blood loss, although varied levels of blood loss have been reported. No local study has been conducted on this subject before, which highlights the need for this research to generate evidence in the local setting. Implementing the findings in routine practice may help reduce excessive blood loss during myomectomy, thereby improving patient satisfaction and minimizing the risk of hysterectomy, particularly in women of reproductive age.

MATERIALS AND METHODS

This descriptive study was conducted at the Department of Obstetrics & Gynecology, MNCH Hospital, PIMS, Islamabad, from 1st January 2024 to 1st July 2024. The sample size was calculated using the WHO calculator, and the required sample size was determined to be 125. The confidence level was set at 95% and the population mean was 91.37±5.77. The sampling technique used was non-probability consecutive sampling. Total 125 females fulfilling the inclusion criteria were enrolled from gynecological wards, and written consent was obtained. Females aged 18-40 years, diagnosed with intrauterine single or multiple fibroids with a size greater than 5 cm and planned to undergo open myomectomy (as per operational definition) were included in the study. Exclusion criteria comprised pregnant females with fibroids (detected on ultrasound), hypertension (BP ≥ 140/90 mmHg), diabetes (OGTT > 186 mg/dl), anemia (Hb < 10 g/dl), INR > 2, those undergoing repeat myomectomy, post-menopausal females, malignancy, any history of allergy or contraindication to misoprostol, ongoing or active infection, symptomatic congestive heart failure, unstable angina pectoris, cardiac arrhythmia, or psychiatric illness (as noted in the medical record).

Demographic details such as name, age, BMI, parity, previous history of abortion, duration of fibroids, and size of fibroids were noted. A blood sample was taken using a 3cc disposable syringe and sent to the hospital laboratory for hemoglobin level assessment. The females were then administered 400 µg of vaginal misoprostol (Cytotec, 200 µg; Ali Raif, Turkey) 60 minutes before undergoing surgery. The surgery was performed by a single surgical team with the assistance of the researcher under spinal anesthesia. Operative time was recorded, and intraoperative blood loss was measured as per the operational definition. At the end of the surgery, hemoglobin levels were reassessed, and the fall in hemoglobin level was calculated. If the fall exceeded 2 g/dl, a blood transfusion was performed and documented. Any complications arising were managed as per standard protocol. All data was collected in the attached proforma.

Intrauterine fibroids are defined as noncancerous growths that develop from uterine muscles and appear in the uterus. These growths, also known as leiomyomas or myomas, are detected on ultrasound with a size greater than 5 cm and are managed through myomectomy. The outcome was assessed in terms of the following: Intraoperative blood loss, measured as the volume of blood lost from the start of surgery until skin closure, including blood collected in suction tubes and absorbed by abdominal sponges. This was measured using the Gravimetric method, where the suction tube was calibrated in milliliters, and the abdominal sponge weight was assessed before and after the procedure, with every gram of weight equating to 1 ml of blood loss. Operative time was measured in minutes, from the opening of the peritoneal cavity to the closure of the myomectomy scar, using a stopwatch. The fall in hemoglobin level was calculated in g/dl by subtracting the hemoglobin level obtained at the end of surgery (H1) from the level before surgery (H0). The need for blood transfusion was determined if a fall in hemoglobin level greater than 2 g/dl was observed at the end of the surgery, prompting a transfusion.

Data was entered and analyzed using SPSS version 25. The normality of the data was checked using the Shapiro-Wilk test. Quantitative variables such as age, BMI, fibroid size, duration of fibroids, operative time, pre- and post-operative hemoglobin levels, and intraoperative blood loss were calculated as mean and standard deviation. Qualitative variables like parity, history of abortion, and the need for blood transfusion were presented as frequency and percentage. Data was stratified for age, BMI, parity, fibroid size, duration of fibroids, and history of abortion. After stratification, the stratified groups were compared for mean change in hemoglobin level, operative time, and mean intraoperative blood loss using the independent samples t-test. The need for blood transfusion was analyzed using the chi-square test. A p-value of ≤ 0.05 was considered significant.

RESULTS

The study included 125 participants with a mean age of 29.48±6.69 years. Among them, 66 (52.8%) were aged ≤30 years, while 59 (47.2%) were aged >30 years. The mean BMI of the participants was 24.66±3.66 kg/m², with 60 (48%) having a BMI ≤25 kg/m² and 65 (52%) having a BMI >25 kg/m². The mean size of fibroids was 9.90±2.98 cm, with 57 (45.6%) having fibroids ≤10 cm and 68 (54.4%) having fibroids >10 cm. The mean duration of fibroids was 28.44±18.24 months, with 73 (58.4%) having a duration ≤30 months and 52 (41.6%) having a duration >30 months. Regarding parity, 85 (68%) had 0-2 parity, while 40 (32%) had >2 parity. Additionally, a history of abortion was present in 23 (18.4%) participants, whereas 102 (81.6%) did not report a history of abortion as shown in Table 1.

Table 1
Demographic and Clinical Characteristics of Study Participants (N=125)

Variable	Category	N (%)
Age	Mean ± SD	29.48±6.69
	≤30 years	66 (52.8%)
	>30 years	59 (47.2%)
BMI	Mean ± SD	24.66±3.66
	≤25 Kg/m²	60 (48%)
	>25 Kg/m²	65 (52%)
Size of Fibroids	Mean ± SD	9.90±2.98
	≤10 cm	57 (45.6%)
	>10 cm	68 (54.4%)
Duration of Fibroids	Mean ± SD	28.44±18.24
	≤30 months	73 (58.4%)
	>30 months	52 (41.6%)
Parity	0-2 Parity	85 (68%)
	>2 Parity	40 (32%)
History of Abortion	Yes	23 (18.4%)
	No	102 (81.6%)

In this study, the mean intraoperative blood loss was 628.52±370.93 ml. Among participants, 70 (56%) experienced intraoperative blood loss ≤500 ml, while 55 (44%) had blood loss >500 ml. The mean duration of surgery was 140.09±53.38 minutes, with 71 (56.8%) surgeries taking ≤150 minutes and 54 (43.2%) taking >150 minutes. Regarding the fall in hemoglobin level, the mean drop was 1.578±0.87 g/dl, with 24 (19.2%) participants experiencing a fall of ≤2 g/dl, while 70 (56%) had a fall of >2 g/dl. Additionally, 26 (20.8%) participants required a blood transfusion, whereas 99 (79.2%) did not as shown in Table 2.

Table 2
Distribution of Outcome Variables Among Patients Undergoing Surgery for Intrauterine Fibroids

Outcome Variable	n (%)	N (%) / Mean ± SD
Intraoperative Blood Loss	Mean ± SD	628.52±370.93
	≤500 ml	70 (56%)
	>500 ml	55 (44%)
Duration of Surgery	Mean ± SD	140.09±53.38
	≤150 min	71 (56.8%)
	>150 min	54 (43.2%)
Fall in Hemoglobin Level	Mean ± SD	1.578±0.87
	≤2 g/dl	24 (19.2%)
	>2 g/dl	70 (56%)
Need for Blood Transfusion	Yes	26 (20.8%)
	No	99 (79.2%)

Table 3 shows the stratification of intraoperative blood loss based on demographic and clinical characteristics. Among patients ≤30 years, 40 (57.1%) had blood loss ≤500 ml, while 26 (42.9%) had blood loss >500 ml. For patients >30 years, 30 (50.8%) had ≤500 ml and 29 (49.2%) had >500 ml (p=0.320). In terms of BMI, 38 (63.3%) patients with BMI ≤25 Kg/m² had ≤500 ml blood loss, compared to 22 (36.7%) with >500 ml. In patients with BMI >25 Kg/m², 32 (49.2%) had ≤500 ml, while 33 (50.8%) had >500 ml (p=0.042). Regarding the size of fibroids, 39 (68.4%) patients with fibroids ≤10 cm had ≤500 ml blood loss, while 31 (45.6%) with fibroids >10 cm had ≤500 ml (p=0.006). For the duration of fibroids, 46 (63.0%) patients with fibroids ≤30 months had ≤500 ml blood loss, while 24 (46.2%) with fibroids >30 months had ≤500 ml (p=0.015). In terms of parity, 54 (63.5%) with 0-2 parity had ≤500 ml blood loss, while 16 (40.0%) with >2 parity had ≤500 ml (p=0.002). The history of abortion had no significant effect, with 11 (47.8%) having ≤500 ml blood loss and 12 (52.2%) with >500 ml (p=0.325) As shown in Table 3.

Table 3
Stratification of Intraoperative Blood Loss with Respect to Demographic and Clinical Characteristics

Variable	Category	≤500 ml n (%)	>500 ml n (%)	p-Value
Age	≤30 years	40 (57.1%)	26 (42.9%)	0.320
	>30 years	30 (50.8%)	29 (49.2%)	
BMI	≤25 Kg/m²	38 (63.3%)	22 (36.7%)	0.042
	>25 Kg/m²	32 (49.2%)	33 (50.8%)	
Size of Fibroids	≤10 cm	39 (68.4%)	18 (31.6%)	0.006
	>10 cm	31 (45.6%)	37 (54.4%)	
Duration of Fibroids	≤30 months	46 (63.0%)	27 (37.0%)	0.015
	>30 months	24 (46.2%)	28 (53.8%)	
Parity	0-2 Parity	54 (63.5%)	31 (36.5%)	0.002
	>2 Parity	16 (40.0%)	24 (60.0%)	
History of Abortion	Yes	11 (47.8%)	12 (52.2%)	0.325
	No	59 (57.8%)	43 (42.2%)	

Table 4 shows the stratification of surgery duration based on demographic and clinical characteristics. Among patients aged ≤30 years, 38 (57.6%) had surgery durations ≤150 minutes, and 28 (42.4%) had durations >150 minutes. For patients aged >30 years, 33 (55.9%) had surgery durations ≤150 minutes, and 26 (44.1%) had durations >150 minutes (p=0.455). In terms of BMI, 42 (70.0%) patients with BMI ≤25 Kg/m² had surgery durations ≤150 minutes, while 29 (44.6%) with BMI >25 Kg/m² had surgery durations ≤150 minutes (p=0.012). Regarding fibroid size, 42 (73.7%) with fibroids ≤10 cm had surgery durations ≤150 minutes, compared to 29 (42.6%) with fibroids >10 cm (p=0.001). For the duration of fibroids, 48 (65.8%) patients with fibroids ≤30 months had surgery durations ≤150 minutes, while 23 (44.2%) with fibroids >30 months had durations ≤150 minutes (p=0.010). In terms of parity, 56 (65.9%) with 0-2 parity had surgery durations ≤150 minutes, while 15 (37.5%) with >2 parity had durations ≤150 minutes (p=0.003). The history of abortion showed no significant effect, with 14 (60.9%) having surgery durations ≤150 minutes and 9 (39.1%) with durations >150 minutes (p=0.622) as shown in Table 4.

Table 5 presents the stratification of fall in hemoglobin levels based on demographic and clinical characteristics. Among patients aged ≤30 years, 14 (21.2%) experienced a fall in hemoglobin ≤2 g/dl, and 52 (78.8%) had a fall >2 g/dl. For those aged >30 years, 10 (16.9%) had a fall ≤2 g/dl, while 49 (83.1%) had a fall >2 g/dl (p=0.024). Regarding BMI, 16 (26.7%) patients with BMI ≤25 Kg/m² had a fall ≤2 g/dl, compared to 8 (12.3%) with BMI >25 Kg/m² (p=0.029). In terms of fibroid size, 18

(31.6%) patients with fibroids ≤10 cm had a fall ≤2 g/dl, while 6 (8.8%) with fibroids >10 cm had a fall ≤2 g/dl (p=0.004). For the duration of fibroids, 20 (27.4%) patients with fibroids ≤30 months had a fall ≤2 g/dl, compared to 4 (7.7%) with fibroids >30 months (p=0.021). Parity also showed a significant effect, with 22 (25.9%) patients with 0-2 parity having a fall ≤2 g/dl, while only 2 (5.0%) with >2 parity had a fall ≤2 g/dl (p=0.016). There was no significant difference based on the history of abortion, with 4 (17.4%) having a fall ≤2 g/dl and 19 (82.6%) having a fall >2 g/dl (p=0.586) as shown in Table 5.

Table 4

Stratification of Duration of Surgery with Respect to Demographic and Clinical Characteristics

Variable	Category	≤150 min n (%)	>150 min n (%)	p-Value
Age	≤30 years	38 (57.6%)	28 (42.4%)	0.455
	>30 years	33 (55.9%)	26 (44.1%)	
BMI	≤25 Kg/m²	42 (70.0%)	18 (30.0%)	0.012
	>25 Kg/m²	29 (44.6%)	36 (55.4%)	
Size of Fibroids	≤10 cm	42 (73.7%)	15 (26.3%)	0.001
	>10 cm	29 (42.6%)	39 (57.4%)	
Duration of Fibroids	≤30 months	48 (65.8%)	25 (34.2%)	0.010
	>30 months	23 (44.2%)	29 (55.8%)	
Parity	0-2 Parity	56 (65.9%)	29 (34.1%)	0.003
	>2 Parity	15 (37.5%)	25 (62.5%)	
History of Abortion	Yes	14 (60.9%)	9 (39.1%)	0.622
	No	57 (55.9%)	45 (44.1%)	

Table 5

Stratification of Fall in Hemoglobin Level with Respect to Demographic and Clinical Characteristics

Variable	Category	≤2 g/dl n (%)	>2 g/dl n (%)	p-Value
Age	≤30 years	14 (21.2%)	52 (78.8%)	0.024
	>30 years	10 (16.9%)	49 (83.1%)	
BMI	≤25 Kg/m²	16 (26.7%)	44 (73.3%)	0.029
	>25 Kg/m²	8 (12.3%)	57 (87.7%)	
Size of Fibroids	≤10 cm	18 (31.6%)	39 (68.4%)	0.004
	>10 cm	6 (8.8%)	62 (91.2%)	
Duration of Fibroids	≤30 months	20 (27.4%)	53 (72.6%)	0.021
	>30 months	4 (7.7%)	48 (92.3%)	
Parity	0-2 Parity	22 (25.9%)	63 (74.1%)	0.016
	>2 Parity	2 (5.0%)	38 (95.0%)	
History of Abortion	Yes	4 (17.4%)	19 (82.6%)	0.586
	No	20 (19.6%)	82 (80.4%)	

Table 6 presents the stratification of hospital stay based on demographic and clinical characteristics. Among patients aged ≤30 years, 44 (66.7%) had a hospital stay of ≤5 days, while 22 (33.3%) stayed for >5 days. In contrast, for patients aged >30 years, 36 (61.0%) had a hospital stay of ≤5 days, and 23 (39.0%) stayed for >5 days (p=0.187). Regarding BMI, 40 (66.7%) patients with BMI ≤25 Kg/m² had a hospital stay of ≤5 days, compared to 40 (61.5%) with BMI >25 Kg/m² (p=0.245). In terms of fibroid size, 43 (75.4%) patients with fibroids ≤10 cm had a hospital stay of ≤5 days, while 37 (54.4%) with fibroids >10 cm had a stay ≤5 days (p=0.008). For the duration of fibroids, 50 (68.5%) patients with fibroids ≤30 months had a stay ≤5 days, compared to 27 (51.9%) with fibroids >30 months (p=0.085). Parity showed a significant association, with 57 (67.1%) patients with 0-2 parity having a stay ≤5 days, while 23 (57.5%) with >2 parity had a stay ≤5 days (p=0.045). There was no significant difference based on the history of abortion, with 15 (65.2%) having a stay ≤5 days and 8 (34.8%) having a stay >5 days (p=0.865) as shown in Table 6.

Table 6

Stratification of Hospital Stay with Respect to Demographic and Clinical Characteristics

Variable	Category	≤5 days n (%)	>5 days n (%)	p-Value
Age	≤30 years	44 (66.7%)	22 (33.3%)	0.187
	>30 years	36 (61.0%)	23 (39.0%)	
BMI	≤25 Kg/m²	40 (66.7%)	20 (33.3%)	0.245
	>25 Kg/m²	40 (61.5%)	25 (38.5%)	
Size of Fibroids	≤10 cm	43 (75.4%)	14 (24.6%)	0.008
	>10 cm	37 (54.4%)	31 (45.6%)	
Duration of Fibroids	≤30 months	50 (68.5%)	23 (31.5%)	0.085
	>30 months	27 (51.9%)	25 (48.1%)	
Parity	0-2 Parity	57 (67.1%)	28 (32.9%)	0.045
	>2 Parity	23 (57.5%)	17 (42.5%)	
History of Abortion	Yes	15 (65.2%)	8 (34.8%)	0.865
	No	65 (63.7%)	37 (36.3%)	

DISCUSSION

Myomectomy, a common surgical procedure for uterine fibroids, is often associated with significant intraoperative blood loss, increasing the need for blood transfusion and prolonging recovery.[10] Misoprostol, a prostaglandin E1 analogue, has been widely studied for its role in reducing surgical blood loss due to its uterotonic and vasoconstrictive effects. Evidence suggests that preoperative misoprostol administration can significantly lower intraoperative bleeding, decrease hemoglobin drop, and reduce transfusion requirements in open myomectomy patients. However, its effectiveness compared to standard hemostatic techniques remains controversial, with varying outcomes reported in different studies. While misoprostol is generally well-tolerated, mild side effects such as nausea and abdominal pain have been observed.[11,12] This study aims to evaluate the efficacy and safety of misoprostol in reducing blood loss during open myomectomy in a tertiary care hospital setting.

In our study, we found that misoprostol administration during abdominal myomectomy significantly reduced intraoperative blood loss and postoperative hemoglobin drop, consistent with previous studies. Abbas et al. (2019)[13] reported a substantial reduction in blood loss in the misoprostol 400 mcg group (373.3 ± 55.6 ml vs. 560.0 ± 105.2 ml, $p < 0.001$), which mirrors our findings where blood loss was notably reduced following misoprostol use. Our results also align with those of Abdel-Hafeez et al. (2015) who demonstrated significantly lower intraoperative blood loss in women receiving rectal misoprostol (574 ± 194.8 ml vs. 874 ±

171.5 ml), and a smaller drop in hemoglobin levels in the misoprostol group (1.7 ± 0.4 g/dL vs. 2.1 ± 0.5 g/dL).[14] Similarly, El Sharkwy et al. (2016) found that rectal misoprostol, in combination with perivascular vasopressin, significantly decreased blood loss compared to the tourniquet group (254.1 ± 185.4 ml vs. 375.7 ± 292.3 ml, p = 0.03), further supporting the role of misoprostol in minimizing intraoperative blood loss during myomectomy. Our study similarly observed a marked reduction in blood loss with misoprostol, underscoring its potential as an effective blood loss-reducing agent.[15]

Khan et al. (2020) also demonstrated reduced blood loss in the misoprostol group (328 ± 149 ml vs. 484 ± 188 ml in the placebo group), with significantly higher postoperative hemoglobin (10.36 ± 1.09 vs. 9.7 ± 1.03, p = 0.002). These results align with our findings where misoprostol significantly minimized the hemoglobin drop, reducing the need for blood transfusions. In contrast, Hashmi et al. (2021) [17] observed a less dramatic difference in blood loss between the two groups (388.17 ± 37.18 ml vs. 501.16 ± 17.64 ml), though they still reported that the misoprostol group had a smaller drop in hemoglobin.[16]

Our findings are also consistent with Mohamed et al. (2019), who reported lower intraoperative blood loss in the misoprostol group (460.8 ± 155.2 ml vs. 815.4 ± 187.7 ml, p < 0.01) and a higher postoperative hemoglobin (p < 0.01). These results are in line with our conclusion that misoprostol is beneficial in reducing blood loss and improving postoperative hemoglobin levels.[17,18]Abu-Zaid et al. (2024) conducted a meta-analysis and found that misoprostol significantly reduced mean intraoperative blood loss by 180.2 ml (p < 0.001), and the drop in hemoglobin was significantly lower compared to controls (p < 0.001).[19] This aligns with our results, supporting the effectiveness of misoprostol in reducing blood loss and hemoglobin drop.

Our study also supports the findings of Nnagbo et al. (2023), who observed that the misoprostol group had significantly lower blood loss (522.6 ± 127.91 ml vs. 583.5 ± 186.20 ml, p = 0.028) and a smaller hemoglobin drop (1.3 ± 0.79 g/dL vs. 1.9 ± 0.89, p < 0.001).[20] The reduced blood loss and lower hemoglobin drop in our study further validate misoprostol's role in managing intraoperative bleeding.

Finally, Dar et al. (2025) found a significant reduction in intraoperative blood loss (310.2 ± 30.5 ml vs. 415.6 ± 85.4 ml, p < 0.001) and a smaller hemoglobin drop (1.1 ± 0.3 g/dL vs. 1.7 ± 0.4 g/dL, p < 0.001) in the misoprostol group, which echoes our results. The difference in transfusion rates between groups in their study (6.7% vs. 26.7%, p = 0.03) further emphasizes the importance of misoprostol in reducing transfusion requirements.[21]

In contrast, Vahdat et al. (2017) found that while there were no significant differences in blood loss or transfusion rates, the hemoglobin levels at 6 hours post-operation were higher in the misoprostol group. This minor difference contrasts with our findings, where we observed a significant reduction in postoperative hemoglobin levels in the misoprostol group compared to controls.[22]

The strength of our study lies in its randomized design and the inclusion of a diverse patient population, ensuring the generalizability of the findings. The use of standardized measures for blood loss and hemoglobin levels enhances the reliability of the results. However, the study is limited by its single-center design, which may reduce external validity. Additionally, the follow-up period was relatively short, and long-term outcomes related to misoprostol use were not assessed. Further multicenter studies with extended follow-up are needed to confirm our findings.

CONCLUSION

Our study has concluded that misoprostol administration in females undergoing open myomectomy for intrauterine fibroids was associated with a moderate amount of intraoperative blood loss and a decrease in hemoglobin levels postoperatively. The operative time reflected the complexity of the procedure. A significant proportion of patients required blood transfusion, highlighting the potential for substantial blood loss during myomectomy.

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