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Hemostatic Effect of Intrauterine Instillation of Oxytocin in Hysteroscopic Myomectomy: A Randomized Double Blinded Control Trial

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Abstract

Introduction: Progesterone and oestrogen can have an impact on benign smooth muscle tumours of the uterus called uterine myomas. The majority of fibroids don't cause any symptoms and don't need to be treated or investigated further. Fibroids originate in the smooth muscles of the uterus and move to an area of decreased resistance, where they can either stay intra-myometrial or develop into subserosal or submucous myomas.

Aim of the Work: This study's primary goal was to find out if oxytocin intrauterine infusion into the distention medium during hysteroscopic myomectomy would lessen blood loss and enhance surgical visibility.

Patients and Methods: This clinical trial was undertaken at the Early Cancer Detection Unit (ECDU) at Ain Shams University hospitals using a randomised controlled double blind design. Sixty women who were scheduled for a hysteroscopic myomectomy were enrolled in this study and split into two equal groups: Group A (Oxytocin group): 10 IU of oxytocin were administered for every 1000 millilitres of the distending medium during the hysteroscopic myomectomy performed on 30 women. Group B (Placebo group): Thirty women had hysteroscopic myomectomy, and for every 1000 millilitres of the distending medium, a sterile bacteriostatic water ampule was used.

Results: There was no statistically significant difference between the groups' demographic (age) and surgical (myoma size, number, and duration of operation) data, nor were there any differences in intra-operative fluids. Each group's Hgb and Hct decrease exhibited a significant difference, with the control group exhibiting a greater mean difference than the oxytocin group. Our findings demonstrated that there was a statistically significant difference in post-operative Hgb and HCT between groups, and that groups were similar in terms of needing blood transfusions and needing a second operation. When it came to the surgeon's assessment of the visual fluid clarity, the groups were equivalent, but there was a statistically significant difference in the surgeons' ratings of bleeding.

According to our findings, there was no statistically significant variation in the number of uterine and medical difficulties across the groups, and the groups' levels of complications were comparable.

Conclusion: During diagnostic hysteroscopy, complications frequently arise. During a hysteroscopic myomectomy, oxytocin is infused intrauterine into the distention medium to minimise blood loss and enhance operative visibility. To confirm these results, more research using a range of doses and techniques is required.

Key words: Hemostatic, Intrauterine, Oxytocin, Hysteroscopic Myomectomy

Introduction

Progesterone and oestrogen can have an impact on benign smooth muscle tumours of the uterus called uterine myomas. The majority of fibroids don't cause any symptoms and don't need to be treated or investigated further[1]. Fibroids originate in the smooth muscles of the uterus and move to an area of decreased resistance, where they can either stay intra-myometrial or develop into subserosal or submucous myomas[2].

Infertility, pressure feelings, irregular uterine bleeding, congestive dysmenorrhea, and recurrent miscarriages are linked to symptoms in twenty to fifty percent of fibroids, particularly when the fibroids are submucous[3].

For women who have reached reproductive age, hysterectomy is the usual course of therapy for symptomatic myomas; for those who want to maintain fertility, myomectomy is the recommended course of action. The gold standard minimally invasive method for the treatment of symptomatic submucous fibroids at this time is hysteroscopic myomectomy[4].

The submucous leiomyomas categorization is useful when evaluating various treatment choices[5]. Submucous uterine fibroids were categorised by the European Society for Gynaecological Endoscopy (ESH) into three types based on the degree of myometrial involvement: Type 0 (the myoma is entirely within the endometrial cavity), Type 1 (the myoma extends less than 50% into the myometrium), and Type 2 (the myoma extends 50% or more within the myometrium)[6].

The right distending pressure, constant irrigation, and the use of electrosurgery to control bleeding are all necessary for a successful hysteroscopic myomectomy. Due to opened blood vessels in the myometrium, prolonged procedures requiring continuous irrigation under high pressure are linked to an increased risk of excessive fluid absorption and intravasation syndrome. Additionally, the use of coagulation currents increases the risk of thermal damage to healthy tissues[7].

The optimal condition for hysteroscopy is a thin endothelium because it allows for a large enough uterine cavity, facilitates hysteroscopic examination, makes it easier to remove intrauterine pathologies, requires less media, reduces the risk of complications from the procedure, and increases patient satisfaction with the procedure's results[8].

Several approaches have been proposed to do this, including as the use of GnRH analogues and oral or vaginal danazol. Prior to surgery, these drugs help to minimise intraoperative bleeding to the point where less media is needed for uterine distension, but they have little influence on post-operative bleeding[9]. Furthermore, these drugs are costly, have serious side effects, and must be started well in advance of the procedure in order for the positive benefits to materialise[10].

Conversely, oxytocin is a uterotonic drug that

decreases bleeding by inducing contraction of the uterine smooth muscle and consequent constriction of the vascular luminal lumen. Although oxytocin is thought to be a safe medication, its short half-life of 4–10 minutes[11] can result in tachycardia, hypotension, and an antidiuretic action[12].

The effectiveness of intrauterine oxytocin instillation in women having hysteroscopic myomectomy is being evaluated for the first time in this study, which is a double blinded randomised placebo controlled experiment.

Aim of the Work

This research aims to determine if intrauterine oxytocin infusion into the distention medium during hysteroscopic myomectomy can minimise haemorrhage and enhance surgical visibility.

Patients And Methods

At the hospitals affiliated with Ain Shams University, the Early Cancer Detection Unit (ECDU) carried out this randomised controlled double blind clinical experiment. Sixty women who were scheduled for a hysteroscopic myomectomy were enrolled in this study and split into two equal groups: Group A (Oxytocin group): 10 IU of oxytocin were administered for every 1000 millilitres of the distending medium during the hysteroscopic myomectomy performed on 30 women. Group B (Placebo group): Approximately two years, from May 2021 to May 2023, thirty women had hysteroscopic myomectomy using a sterile bacteriostatic water ampule for every 1000 millilitres of the distending medium. There will be sixty ladies who have a hysteroscopic myomectomy scheduled.

Inclusion Criteria

After being informed about the study's purpose and potential risks, the subjects must be able to understand and sign the informed consent form. They must also meet the following requirements: have one or two submucous uterine myomas diagnosed by transvaginal ultrasound with a diameter of equal to or less than 4 cm, grade 0 or 1 according to the ESH classification, and a body mass index of less than 35.

Exclusion criteria

Patients with uterine structural abnormalities or uterine septum, history or present of cervical or uterine cancer, preoperative administration of GnRH analogues or danazol, allergy or contraindication to a specified treatment medium, patients with high risk for thromboembolism as hypercoagulopathy, and pregnancy are among the conditions that may require the use of anticoagulants.

Group A (Oxytocin group): 10 IU of oxytocin will be administered for every 1000 millilitres of the distending medium during a hysteroscopic myomectomy on 30 women.

Group B (Placebo group): Thirty women will have hysteroscopic myomectomy, and for every 1000 millilitres of the distending medium, a sterile, bacteriostatic water ampule will be used.

Study Procedures

Patients underwent: Taking their medical and surgical histories; this included their personal history, menstrual and obstetric history, and prescription history. Clinical assessment: Both general and local care are provided, with particular attention paid to the uterus's size and position, the myometrial free margin—which is the minimum thickness between the fibroid's outer edge and the inner edge of the uterine serosa—and transvaginal ultrasonography, which measures the number, size, and location of fibroids. Assessment in the lab: Routine blood tests, including the Complete Blood Count (CBC), serum creatinine, coagulation profile, viral indicators, and liver function tests, will be performed on each participant.

Surgical procedure

A 2-9 mm telescope with continuous-flow sheath (Hopkins II telescope 30 degrees: Karl storz, Tuttlingen, Germany) will be used for office hysteroscopy the day before the procedure to evaluate and confirm the location of the fibroid, as well as its intracavitary portion and rule out any associated uterine pathology. The on-call lecturer will perform a hysteroscopy in the postmenstrual early proliferative phase (dorsal lithotomy position) while under general anaesthesia. Hegar dilators will be used for cervical dilatation, and a monopolar resectoscope will be used for submucous fibroid resection. The distension medium used for the resectoscope will be 1,5% glycine.

Ten micrograms of oxytocin will be given to the intervention group (oxytocin group) for every thousand millilitres of the distending medium. A sterile bacteriostatic water ampule in the same form will be added to each 1000 millilitres of the distending medium in the control group. Following the surgery, the surgeon will grade the amount of bleeding (0: no bleeding, I: mild bleeding, II: moderate bleeding, III: severe bleeding, and IV: severe bleeding with clots) on a record scale to record the expected blood loss. I'll also use a three-point Likert scale to record the visual field's clarity (bad, fair, good).

Post operative settings

Both the length of the procedure and the amount of media injected will be computed and recorded. Twelve hours following the surgery, all patients will have postoperative haemoglobin and hematocrit testing, and any issues that arise during or after the procedure (whether surgical or medical) will be recorded.

Analytical statistics

Version 27.0 of the Statistical Package for Social Science (SPSS) was used to analyse the data. Quantitative data were reported as mean ± standard deviation (SD) or, if not specified, as median (IQR). Frequency and percentage were used to convey qualitative data. The following p-value was regarded as significant: A P-value of less than 0.05 was deemed significant.

Results

Sixty (60) patients were enrolled in the study. 30 patients in each group. Groups were comparable in demographic data (in terms of age) and surgical data sin term of (myoma size and number and duration of surgery) and intraoperative fluids and there were no statistically significant difference between groups (p-value >0.05) (Table 1).

Groups were comparable in pre and post operative HGB and HCT and there were statistically significant difference between groups in post operative Hgb and HCT (Table 2).

Paired t test done for each group and there were significant difference in Hgb and Hct drop in each

Table 1. Comparison between groups as regard demographic data and surgery duration and indication.

DEMOGRAPHIC DATA		GROUP CONTROL (N=30)	GROUP OXYTOCIN (N=30)	P-VALUE T
Age (years)		36.57±4.4	37.60±5.5	0.421
Duration		21.57±11.4	20.30±13.9	0.701
Indication	AUB	20 (66.7%)	25 (83.3%)	0.136
	Infertility	10 (33.3%)	5 (16.7%)	

Data expressed as mean ± SD, proportion, t = student t test, X2 = chi square test

Table 2. Comparison between groups as regard pre and post operative HGB and HCT.

	GROUP CONTROL (N=30)	GROUP OXYTOCIN (N=30)	P-VALUE[T]
pre-op HB	11.39±1.7	11.36±1.7	0.945
pre-op Hct	34.57±4.7	34.42±4.8	0.902
post-op HB	10.25±1.4	11.13±1.7	**0.035**
post-op Hct	30.67±4.1	33.55±4.8	**0.015**

Data expressed as mean ± SD, t = student t test,

group but control group showed more mean difference than oxytocin group (Table 3).

Groups were comparable in post operative need of blood transfusion and 2nd surgery (Table 4).

Groups were comparable in surgeon evaluation in term of visual fluid clarity and there were statistically significant difference between groups in surgeon rating bleeding (Table 5).

Groups were comparable in complications in term of (utrine and medical) and there were no statistically significant difference between groups in rating bleeding (Table 6).

Discussion

Benign smooth muscle tumours of the uterus that are influenced by progesterone and oestrogen levels are known as uterine fibroids. The most prevalent pelvic tumours in women are fibroids, which may

Table 4. Comparison between groups as regard post operative.

	GROUP CONTROL (N=30)	GROUP OXYTOCIN (N=30)	P-VALUE[T]
Need of blood transfusion	No patients need postoperative blood transfusion		
Need of 2nd surgery	30 (100.0%)	27 (90.0%)	0.076
	0 (0.0%)	3 (10.0%)	

Data expressed as mean ± SD, proportion , t = student t test, X2 = chi square test

Table 5. Comparison between groups as regard surgeon rating the bleeding and visual clarity.

	GROUP CONTROL (N=30)	GROUP OXYTOCIN (N=30)	P-VALUE[X2]
Surgeon rating the bleeding			
No bleeding	11 (36.7%)	22 (73.3%)	
Mild	14 (46.7%)	8 (26.7%)	**0.006**
Moderate	5 (16.7%)	0 (0.0%)	
Visual fluid clarity			
Bad	2 (6.7%)	0 (0.0%)	
Fair	11 (36.7%)	6 (20.0%)	0.09
Good	17 (56.7%)	24 (80.0%)	

Data expressed as, proportion, X^2 = chi square test

Table 3. Comparison between groups as regard pre and post operative HGB and HCT.

		PRE-OP	POST-OP	PAIRED DIFFERENCES	P-VALUE[T]
Hgb	**Control**	11.39±1.7	10.25±1.4	- 1.14 ± 0.7	**<0.001**
	Oxytocin	11.36±1.7	11.13±1.7	- 0.23 ± 0.2	**<0.001**
HCT	**Control**	34.57±4.7	30.67±4.1	- 3.9 ± 2.6	**<0.001**
	Oxytocin	34.42±4.8	33.55±4.8	- 0.86 ± 0.8	**<0.001**

Data expressed as mean ± SD, proportion , t = student t test, X^2 = chi square test

Table 6. Comparison between groups as regard complications.

		GROUP CONTROL (N=30)	GROUP OXYTOCIN (N=30)	P-VALUE ^{X2}
Uterine complications		1 (3.3%)	0 (0.0%)	0.313
Medical	**Nausea**	3 (10.0%)	5 (16.7%)	0.448
	Vomiting	No patients detected		
	Headache	0 (0.0%)	2 (6.7%)	0.15
	Abdominal pain	1 (3.3%)	2 (6.7%)	0.554

Data expressed as, proportion, X^2 = chi square test

be sonographically detected by ultrasonography in as many as 70–80% of cases before to menopause[13].

Although 20–50% of fibroids are asymptomatic, they might cause irregular uterine bleeding, congestive dysmenorrhea, pressure symptoms, infertility, or recurrent pregnancy loss, particularly if they are submucous.

For women who have finished having children, the usual course of therapy for symptomatizing myomas is hysterectomy; for those who want to maintain their fertility, it is myomectomy. Depending on the size, location, and quantity of the myomas, a laparotomy, laparoscopy, or hysteroscopy may be used to conduct a myomectomy[14].

The "gold standard" minimally invasive method for treating symptomatic submucous myomas is now hysteroscopic myomectomy. Six Patients who have a hysteroscopic myomectomy run the risk of experiencing hemodynamic and haematological problems as well as considerable blood loss.

Numerous measures were taken to lower the possibility of bleeding during myomectomy. These include the use of anti-fibrinolytics like tranexamic acid or utero-tonics like oxytocin[15].

One utero-tonic substance that induces myometrial contraction is oxytocin. During a hysteroscopic myomectomy, oxytocin infusion may have the benefit of preserving uterine contractility, which might minimise blood loss[16].

For endoscopic gynaecological surgeons, excessive bleeding during hysteroscopic myomectomy continues to be a significant concern. While several therapies have been reported to decrease intraoperative blood loss, well-designed randomised controlled trials are still required to determine the most effective strategies with acceptable safety profiles, enabling surgeons to perform safe and effective surgery[17].

This study's primary goal was to find out if oxytocin intrauterine infusion into the distention medium during hysteroscopic myomectomy would lessen blood loss and enhance surgical visibility.

This clinical trial was undertaken at the Early Cancer Detection Unit (ECDU) at Ain Shams University hospitals using a randomised controlled double blind design. Sixty women who were scheduled for a hysteroscopic myomectomy were enrolled in this study and split into two equal groups: Oxytocin group, or group A: Group B (Placebo group): 30 women had hysteroscopic myomectomy using a sterile bacteriostatic water ampule for every 1000 ml of the distending medium. The 30 women in Group B received 10 IU of oxytocin hysteroscopic myomectomy.

There was no statistically significant difference (p-value >0.05) in the groups' demographic (age) and surgical (myoma size, number, and duration of

operation) data, or intraoperative fluids. The groups were comparable.

Our findings corroborated the findings of Pourfathi et al.'s study[18], which stated that the study group (group S, n = 25) was given 250 mL of ringer solution at a rate of 125 mL/h in addition to 15 units (1.5 mL) of oxytocin (10 µ/mL/amp) (oxy TIP; Rasht Pharmaceutical Co., Iran). 1.5 mL of normal saline was concurrently added to the same volume of Ringer's solution and given to the placebo group (group P, n = 25). Regarding the demographics of women, there was no statistically significant difference between the groups.

In a similar vein, 60 patients scheduled for hysteroscopic myomectomy were divided into two groups in the research by Mohamed et al.[19]: After anaesthesia was induced, group A got a gradual intravenous infusion of 10 mg/kg of tranexamic acid, while group B received a continuous infusion of 10 IU of oxytocin at a rate of 400 mIU/min. Regarding the demographic parameters, there was no statistically significant difference between them. Furthermore, there was no statistically significant difference between the two groups' myoma diameters and grades.

Both fibroid tissues and the myometrium have oxytocin receptors. Uterine perfusion is reduced by prostaglandin release, which is induced by oxytocin. Blood flow to the arteries and fibroids is directly impacted by increased uterine contractility, which also has an adverse effect on the uterus's vascular architecture[20].

Popular conventional and less invasive gynaecological procedures in hysteroscopy include uterine myomectomy and polypectomy.

Although hysteroscopic surgery has many benefits, one of the side effects that causes hypervolemia in 3-6% of women is irrigation fluid absorption. Hysteroscopic irrigation fluid is often made of hypotonic solutions, such as glycine or mannitol combined with sorbitol. Complications include hypervolemia, dilutional hyponatremia, and the toxicity of glycine and its metabolites may be linked to these solutions. The intravasation of fluid electrolyte imbalances (hyponatremia, hypoproteinemia, and low hematocrit) brought on by glycine is the most serious consequence. Women often report headaches, dizziness, nausea, and vomiting. There may be brain and pulmonary edoema. The worst-case scenario involves fluid intravasation. Low hematocrit, hypoproteinemia, and hypoonatremia were the electrolyte abnormalities caused by glycine excess[21].

According to the current study, there was a statistically significant difference in the groups' post-operative HGB and HCT, although the groups' pre- and post-operative HGB and HCT were comparable. Each group's Hgb and Hct decrease exhibited a significant difference according to the results of a paired t test; however, the control group's mean difference was greater than that of the oxytocin group.

Our findings demonstrated that there was no statistically significant difference between the groups' post-operative Hgb and HCT, and that the groups were similar in terms of their requirement for blood transfusions and subsequent surgeries. When it came to the surgeon's assessment of the groups' ocular fluid clarity and bleeding, the groups were equivalent, however there was a statistically significant difference in the groups' bleeding ratings.

Wang et al.'s study[22], which revealed that patients undergoing vaginal and abdominal myomectomy were given an oxytocin infusion of 15 IU in 125 mL, corroborated our findings. The group not receiving oxytocin infusion saw a substantial increase in blood loss and blood transfusion rates compared to the group receiving oxytocin infusion. Contractile prostaglandins are produced and released as a result of oxytocin receptors in the uterus and fibroid tissue. Significantly less intraoperative blood loss and glycine deficiency were linked to oxytocin infusion.

The volume of injected and collected media fluid,

as well as its deficit, were considerably smaller in the oxytocin group in the Pourfathi et al.[18] investigation. Additionally, following surgery, the rate of decreasing serum hematocrit was substantially lower than that of the placebo group. In both groups, their values did not deviate from the usual range. Intravascular absorption of irrigation solution can lead to hemodynamic imbalances, pulmonary edoema, increased intracranial pressure, haematological disorders, and even organ failure. This can happen during hysteroscopic surgeries through the vasculature or fallopian tubes opening into the peritoneum.

In the study group, there was a considerably smaller fall in serum hematocrit. (The difference in the HCT parameter between the two groups was evaluated; the $\chi 2$ value was 4.36, P=0.036, ≥3). Hematocrit and haemoglobin levels before to surgery were comparable throughout groups.

Moreover, women were reportedly divided into two groups at random by Atashkhoei et al.[23]. 40 trial participants received 30 IU of oxytocin in 500 ml of normal saline, whereas 40 placebo participants received 40 IU of pure normal saline after their myomectomy. Preoperative clinical statistics were comparable between the groups. The trial group experienced a considerably decreased intra-operative estimated blood loss (189.5 ± 16.72 ml) compared to the placebo group (692.25 ± 89.93 ml) (95% CI 672.54–711.96; P <0.0001). The research group's requirement for blood transfusions was far reduced. Three (7.5%) patients in the experimental group and ten (25%) patients in the placebo group needed blood transfusions (95% CI 15.5–34.5%; P <0.001).

The groups' preoperative hematocrit and haemoglobin levels were comparable. At 24 hours postsurgery, the placebo group saw a greater reduction in these variables than the research group (P <0.0001 for both parameters).

Fifty women who were scheduled for hysteroscopic myomectomy (HM) were divided into two groups at random in the research by Mousa et al.[24]. Oxytocin (OXY) or tranexamic acid (TXA). In comparison to OXY, TXA demonstrated a considerable drop in heart rate after 30 and 45 minutes as well as 1 and 2 hours. When comparing TXA to OXY, post-operative Hb and Hct revealed a considerable drop (p <0.001). In TXA, CVP showed a substantial increase (p<0.001) 15 minutes after spinal blockade and 30 minutes, 45 minutes, 1 hour, and 2 hours later.

Over the course of the trial, serum sodium significantly decreased in TXA (p<0.001) when compared to OXY.

On the other hand, oxytocin treatment during myomectomy did not lessen preoperative blood loss in the Agostini et al.[25] trial.

Shokeir et al.[26] split the forty-eight women who participated in the study into two groups. During the procedure, 500 mL of Ringer's lactate solution was infused with one ampoule of oxytocin (10 U/mL/amp) at a rate of 400 mU/min for group A. In group B, Ringer's solution was mixed with one ampoule of saline solution and ran at a comparable pace.

While the oxytocin group saw a lower reduction in albumin level and hematocrit, operating time, volume of distension fluid utilised, and hematocrit than the saline group, these changes were not statistically significant. The oxytocin group had substantially lower blood ethanol levels, a drop in serum Na+, and a glycine deficit compared to the saline group (17.4 ± 3.8 vs 25.3 ± 4.2 mg/ml, 6.7 ± 1.2 vs 9.1 ± 0.9 mEq/L, and 0.49 ± 0.08 vs 0.66 ± 0.05 L, respectively; p <.05).

Additionally, Mohamed et al.[19] reported that there was no significant difference (p=0.558) in the mean difference in haemoglobin (Hb) levels between preoperative and postoperative measurements for patients in the tranexamic acid group and oxytocin group, which was -1.27 (±0.84) and -1.14 (±0.83), respectively. Haemoglobin levels were lowered by 11.06 percent with SD ±6.46 in the oxytocin group and by 10.21 percent (SD ±7.29) in the tranexamic

acid group, respectively, with no discernible difference (p= 0.636). The mean change in hematocrit (Hct) levels between preoperative and postoperative periods was -4.29 (±2.86) in the oxytocin group and -4.54 (±2.80) in the tranexamic acid group, with no significant difference (p= 0.730).

There was no significant difference (p=0.577) in the reduction of hematocrit levels, which were 11.83% (SD ±7.34) in the oxytocin group and 12.91% (SD ±7.58) in the tranexamic acid group. In neither group did any patients require a blood component transfusion.

Furthermore, Nasr Al-Deen et al.[27] reported that the study participants were randomly assigned to two groups: Group 1 consisted of 30 women who underwent an abdominal myomectomy and received 30 IU of oxytocin in 500 ml of normal saline. Group 2 consisted of 30 women who underwent the surgery and received only saline infusion. In addition to having considerably greater postoperative haemoglobin and hematocrit with much lower hematocrit decline, the estimated blood loss was significantly lower in the oxytocin group when compared to the control group.

Despite being thought to be a safe medication, oxytocin has adverse inotropic, antiplatelet, and antidiuretic effects in addition to the potential to induce tachycardia and hypotension. Tachyarrhythmias, hyponatremia, and hypotension are some of the main adverse effects of oxytocin[26].

According to our findings, there was no statistically significant variation in the number of uterine and medical difficulties across the groups, and the groups' levels of complications were comparable.

However, there were no appreciable variations in the frequency of hypotension between the placebo group and the oxytocin-treated women in the Pourfathi et al.[18] trial. On the other hand, research revealed that hypotension, tachyarrhythmias, and hyponatremia were the most frequent adverse effects of oxytocin[28]. It appears that the small sample size and low oxytocin dosage in this investigation may have contributed to the study's limited adverse effects.

According to Atashkhoei et al.[23], neither group experienced any significant adverse effects.

Furthermore, Mohamed et al.[19] showed that the only surgical complication that happened during the research was uterine perforation. Each group had one instance of this. The Heggar's dilators, which are used to dilate the cervix in order to pass the resectoscope, were falsely passed in both cases. Both instances were conservatively treated, the surgeries were delayed, and no new difficulties arose. During the trial, the only known pharmaceutical side effect that was noted was nausea. It happened in two cases with tranexamic acid and three cases involving oxytocin, with no statistically significant difference between the two groups (p=0.643).

The anesthesiologists did not notice any arrhythmias, and the patients did not report any of the other side effects that were evaluated, such as headaches, syncope, or nasal congestion. There were no instances that showed thrombotic events within a week following surgery.

There were several restrictions on this investigation. The primary restriction is the short sample size. Another drawback is that the study only involves one centre.

Conclusion

During diagnostic hysteroscopy, complications frequently arise. During a hysteroscopic myomectomy, oxytocin is infused intrauterine into the distention medium to minimise blood loss and enhance operative visibility. To confirm these results, more research using a range of doses and techniques is required.

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