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ASSESSING THE EFFECTIVENESS OF THE MINIMALLY INVASIVE HYSTEROSCOPY SURGERY AS AN ALTERNATIVE TO INVASIVE SURGERIES PERFORMED IN GYNAECOLOGICAL SETTINGS: A CLINICAL STUDY

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ABSTRACT

Background: Given hysteroscopy's great safety and effectiveness in treating and diagnosing a range of gynecologic and obstetric problems, it is imperative that it be explored as a potential replacement for invasive routine gynecologic conditions in the future.

Aim: In order to evaluate hysteroscopy's therapeutic and diagnostic efficacy in lieu of invasive gynecologic treatments for common gynecologic disorders such as recurrent abortion, infertility, and uterine hemorrhage, the current study was carried out.

Methods: Three groups consisting of 232 individuals were formed: 32 cases of infertility (Group II), 17 cases of repeated abortions (Group III), and 183 cases of abnormal uterine bleeding (Group I). Menstruation status, method of contraception, length of hospital stay, principal complaint, number of abortions, and history of prior abortions, parity, gravidity, and age of the subjects were all evaluated in this study. The study evaluated the quality of the care provided as well as any failures or issues with the diagnosis and course of therapy. The gathered information was examined statistically.

Results: Among the subjects with uterine bleeding, 1.09% (n=2) underwent hysteroscopy, myomectomy, and polypectomy; in contrast, 14.75% (n=27) underwent hysteroscopy, myomectomy, and curettage, and 6.25% (n=2) underwent infertility. In Group I, II, and III, hysteroscopy and curettage were performed on 37.15% (n=68), 18.75% (n=6), and 29.41% (n=5) of the individuals, respectively. In Group I, II, and III, 8.19% (n=15), 12.5% (n=4), and 11.76% (n=2) of the participants underwent hysteroscopy and myomectomy, respectively. In patients from Group I, II, and III, hysteroscopy alone was carried out in 24.599% (n=45), 9.387% (n=3), and 17.64% (n=3) of the subjects, respectively.

Conclusion: The current study suggests that hysteroscopy is a safe, effective, and less intrusive option for treating patients with uterine hemorrhage, infertility, and recurrent abortions when compared to traditional gynecologic operations.

Keywords: minimally invasive, hysteroscopy, infertility, abortion hysteroscopy and internal hemorrhage
INTRODUCTION

Most gynecologic disorders are now treated and managed primarily through the use of hysteroscopy. The "see and treat" strategy is applied in sophisticated hysteroscopic procedures, where the benefit of uterine cavity exploration is combined with surgical intervention for specific diseases. A widely used surgical technique that enables transcervical manipulation and visualization of the uterine cavity is hysteroscopy. Furthermore, hysteroscopy is a minimally invasive surgical procedure with a variety of uses, including the analysis of data and the treatment of endocervical and intrauterine diseases.¹

In affluent nations notably, the curettage operation is being substantially supplanted by diagnosis and therapy for people with abnormal uterine bleedings. Hysteroscopy offers simultaneous visualization and intervention, which is its primary advantage over other gynecologic interventional techniques. Despite these benefits and superiority, hysteroscopy is not regarded as a standard intervention technique for researching and evaluating people with infertility. Nonetheless, hysteroscopy is a more accurate method of assessing the uterine cavity than hysterosalpingography.²

Mullerian system anomalies are among the most frequent intrauterine disorders that cause spontaneous abortion and infertility. Agenesis, such as developmental malformations, septated uterus due to m tube canalization anomalies, and junction defects, such as the bicornuate uterus and unicorn uterus, can result from these Mullerian system abnormalities. The diagnosis of these lesions is largely difficult due to the wide and varied spectrum of symptoms associated with these conditions, such as abortion, infertility, dyspareunia, vaginal discharge, hypermenorrhea, and blockage of monthly bleeding in the menarche phase. Three main methods are used to diagnose these lesions: hysterosonography, laparoscopy, and hysterosalpingography. The majority of problems are primarily diagnosed and discovered by hysterosalpingography and sonography.

MRI is thought to be the first imaging modality to be explored in these patients, although additional imaging is necessary to get a firm diagnosis. Hysteroscopy and Laparoscopy modalities are designated for clients who require interventional care.⁴

In the future, hysteroscopy should be seriously considered as a potential substitute for invasive routine gynecologic diseases due to its high level of safety and efficacy in treating and diagnosing a variety of gynecologic and obstetric disorders. Nonetheless, there is a dearth of information in the literature regarding the potential use of hysteroscopy in place of standard invasive gynecologic surgeries.⁵ In order to evaluate the therapeutic and diagnostic effectiveness of hysteroscopy as a substitute for invasive gynecologic operations in common gynecologic disorders such as recurrent abortion, infertility, and uterine hemorrhage, the current study was carried out.

MATERIALS AND METHODS

In order to evaluate the therapeutic and diagnostic effectiveness of hysteroscopy as a substitute for invasive gynecologic operations in common gynecologic disorders such as recurrent abortion, infertility, and uterine hemorrhage, the current cross-sectional and descriptive study was carried out. The study was carried out at... from.. to.. with approval from the relevant ethical committee. The participants who came to the outpatient department of obstetrics and gynecology complaining of uterine hemorrhage, abortion, and infertility made up the study population. The study comprised 232 female patients in total.

Hysteroscopy is a less invasive method that replaces invasive conventional gynecologic surgical procedures. A total of 232 individuals were investigated under three groups. 32 cases of infertility (Group II), 17 cases of repeated abortions (Group III), and 183 cases of irregular uterine bleeding (Group I) were among the 232 participants divided into three groups. In this study, these three groups were examined and evaluated. In order to determine the etiology of irregular uterine bleeding, multiple abortions, and infertility in the study subjects, a thorough history and examination were performed on each individual. Additionally, hysteroscopy was used to determine the etiology of these anomalies.

Furthermore, the frequency of treatment administered within each group was ascertained. For each patient, a single hysteroscope was used to execute the procedure. The hysteroscope employed two lenses, one at zero degrees and the other at thirty, as well as rollerball electrodes and loops for cutting and ablation. Four hours before to using the hysteroscope, 200 micrograms of misoprostol were administered sublingually or vaginally to promote cervix ripening. Particular attention was paid to the cervix ripening in nulligravida and infertile females.

Four cases among the screened participants were canceled due to bleeding, blurry vision, and challenging cervical dilatation.

Saline was utilized as a media for diagnostics, and glycine and 5% distilled water were employed for surgical treatments. Following hysteroscopy, the participants were reassessed six months later to ascertain success rates.

The study only included the subjects who provided permission for the investigation and reevaluation. Menstruation status, method of contraception, length of hospital stay, principal complaint, number of abortions, history of prior abortions, parity, gravidity, and age of the subjects were all evaluated in this study. The study evaluated the quality of the care provided as well as any failures or issues with the diagnosis and course of therapy.

Using SPSS software version 21 (Chicago, IL, USA) and one-way ANOVA for result formulation, the gathered data were statistically evaluated. The data were presented as a mean, standard deviation, percentage, and number. At $p < 0.05$, the significance threshold was maintained.

RESULTS

In order to evaluate the therapeutic and diagnostic effectiveness of hysteroscopy as a substitute for invasive gynecologic operations in common gynecologic disorders such as recurrent abortion, infertility, and uterine hemorrhage, the current cross-sectional and descriptive study was carried out. Hysteroscopy is a less invasive method that replaces invasive conventional gynecologic surgical procedures. A total of 232 individuals were investigated under three groups. There were 232 participants total, divided into three groups: 32 cases of infertility, 17 cases of recurrent abortions, and 183 cases of irregular uterine hemorrhage. In this study, these three groups were examined and evaluated.

Table 1 shows the demographic details of the research participants. The study participants' mean age was observed to be 41.5 ± 8.1 years for the uterine bleeding, 29.8 ± 5.2 years for the infertility, and 32.9 ± 5.8 years for the recurrent abortion groups. Among uterine bleeding participants, menopause, amenorrhea, regular and irregular menstrual bleeding were observed in 8.74% ($n = 16$), 1.09% ($n = 2$), 57.92% ($n = 106$), and 32.24% ($n = 59$) of the subjects, respectively. 3.125% ($n=3$), 21.25% ($n=10$), and 65.62% ($n=21$) of the infertility group and 17.64% ($n=3$), 11.76% ($n=2$), and 70.58% ($n=12$) of the recurrent abortion group, respectively, had amenorrhea, irregular bleeding, and regular bleeding.

For the three groups, the values of gravity were 3.6 ± 2.7 , 0.6 ± 1.6 , and 4.2 ± 1.6 , respectively. These values were statistically significant ($p < 0.001$). Group I had a greater parity of 3.5 ± 2.1 , while Group II and III had 1.6 ± 1.4 and 0.4 ± 0.5 , respectively. A statistically significant difference was observed ($p < 0.001$). Three groups (Group I, II, and III) showed significantly different abortion histories ($p < 0.001$): 31.14% ($n=57$), 28.12% ($n=9$), and 100% ($n=17$) of the participants, respectively. Hospital stays varied somewhat throughout the groups ($p=0.368$).

The treatment provided to the three study subject groups was also evaluated in this investigation; Table 2 presents the findings.

Among the subjects with uterine bleeding, 1.09% ($n=2$) underwent hysteroscopy, myomectomy, and polypectomy; in contrast, 14.75% ($n=27$) underwent hysteroscopy, myomectomy, and curettage, and 6.25% ($n=2$) underwent infertility. 9.37% ($n=3$) of the infertile subjects underwent hysteroscopy, curettage, and laparoscopy, whereas 3.125% ($n=1$) underwent hysteroscopy, curettage, and polypectomy. Two patients who had uterine hemorrhage had laparotomy and hysteroscopy procedures. In Group I, II, and III, 4.91% ($n=9$), 37.5% ($n=12$), and 41.17% ($n=7$) of the individuals underwent hysteroscopy and laparoscopy, respectively. Of the subjects with uterine hemorrhage, 6.01% ($n=11$) underwent hysteroscopy and hysterectomy. Whereas 2.18% ($n=4$) of the participants with uterine hemorrhage underwent a hysteroscopy and polypectomy, 3.125% ($n=1$) of the subjects with infertility underwent laparoscopic ovarian drilling.

In Group I, II, and III, hysteroscopy and curettage were performed on 37.15% ($n=68$), 18.75% ($n=6$), and 29.41% ($n=5$) of the individuals, respectively. In Group I, II, and III, 8.19% ($n=15$), 12.5% ($n=4$), and 11.76% ($n=2$) of the participants underwent hysteroscopy and myomectomy, respectively. In patients from Group I, II, and III, hysteroscopy alone was carried out in 24.599% ($n=45$), 9.387% ($n=3$), and 17.64% ($n=3$) of cases, respectively.

Concerning uterine hemorrhage, infertility, and repeat abortion, no subjects experienced issues associated to hysteroscopy. However, those given a hypotonic solution showed signs of increased fluid overload. The most frequent finding at reevaluation was a septate uterus, which was treated with electrodes to remove the septum; in contrast, semi-flexible scissors were utilized in a small number of participants who had thin septa. There was a report of intrauterine death in one individual.

Approximately 75% success was seen in improved hemoglobin count and reduction in bleeding.

DISCUSSION

In order to evaluate the therapeutic and diagnostic effectiveness of hysteroscopy as a substitute for invasive gynecologic operations in common gynaecologic disorders such as recurrent abortion, infertility, and uterine hemorrhage, the current cross-sectional and descriptive study was carried out. Hysteroscopy is a less invasive method that replaces invasive conventional gynecologic surgical procedures. A total of 232 individuals were investigated under three groups. There were 232 participants total, divided into three groups: 32 cases of infertility, 17 cases of recurrent abortions, and 183 cases of irregular uterine

hemorrhage. The mean age of the study subjects for the infertility, recurrent abortion, and uterine bleeding groups were 32.9±5.8 years, 29.8±5.2 years, and 41.5±8.1 years, respectively. According to the study data.

Among uterine bleeding participants, menopause, amenorrhea, regular and irregular menstrual bleeding were observed in 8.74% (n = 16), 1.09% (n = 2), 57.92% (n = 106), and 32.24% (n = 59) of the subjects, respectively. For the three groups, the values of gravity were 3.6±2.7, 0.6±1.6, and 4.2±1.6, respectively. These values were statistically significant (p<0.001). Group I had a greater parity of 3.5±2.1, while Group II and III had 1.6±1.4 and 0.4±0.5, respectively. A statistically significant difference was observed (p<0.001). Three groups (Group I, II, and III) showed significantly different abortion histories (p<0.001): 31.14% (n=57), 28.12% (n=9), and 100% (n=17) of the participants, respectively. Hospital stays varied somewhat throughout the groups (p=0.368).

The present study's characteristics were analyzed by Liu Y et al. (2006) and Van Dongen H et al. (2009), who conducted research that assessed similar qualities.

The treatment provided to the three study subject groups was also evaluated in this investigation; Table 2 presents the findings. Among the subjects with uterine bleeding, 1.09% (n=2) underwent hysteroscopy, myomectomy, and polypectomy; in contrast, 14.75% (n=27) underwent hysteroscopy, myomectomy, and curettage, and 6.25% (n=2) underwent infertility. 9.37% (n=3) of the infertile subjects underwent hysteroscopy, curettage, and laparoscopy, whereas 3.125% (n=1) underwent hysteroscopy, curettage, and polypectomy.

Two patients who had uterine hemorrhage had laparotomy and hysteroscopy procedures. In Group I, II, and III, 4.91% (n=9), 37.5% (n=12), and 41.17% (n=7) of the individuals underwent hysteroscopy and laparoscopy, respectively. Of the subjects with uterine hemorrhage, 6.01% (n=11) underwent hysteroscopy and hysterectomy. Whereas 2.18% (n=4) of the participants with uterine hemorrhage underwent a hysteroscopy and polypectomy, 3.125% (n=1) of the subjects with infertility underwent laparoscopic ovarian drilling. In Group I, II, and III, hysteroscopy and curettage were performed on 37.15% (n=68), 18.75% (n=6), and 29.41% (n=5) of the individuals, respectively. In Group I, II, and III, 8.19% (n=15), 12.5% (n=4), and 11.76% (n=2) of the participants underwent hysteroscopy and myomectomy, respectively.

In patients from Group I, II, and III, hysteroscopy alone was carried out in 24.599% (n=45), 9.387% (n=3), and 17.64% (n=3) of cases, respectively. These findings corroborated those of research by Mostafa-Gharabaghi P et al. (2008) and Dendrinis S et al. (2009), whose authors observed similar outcomes in relation to uterine hemorrhage, abortion, and infertility.

Concerning uterine hemorrhage, infertility, and repeat abortion, no subjects experienced issues associated to hysteroscopy. However, those given a hypotonic solution showed signs of increased fluid overload. The most frequent finding at reevaluation was a septate uterus, which was treated with electrodes to remove the septum; in contrast, semi-flexible scissors were utilized in a small number of participants who had thin septa. There was a report of intrauterine death in one individual.

The success rate for improving hemoglobin count and reducing bleeding was about 75%. These outcomes corroborated the findings of Yanaihara A et al. (2010) and Kaminski P et al. (2011), whose authors reported similar success and problems.

CONCLUSION

Within its limitations, the present study concludes that hysteroscopy is an efficient, less-invasive, and safe alternative to conventional gynecologic surgeries in diagnosing and treating subjects with recurrent abortion, infertility, and uterine bleeding. However, the present study had few limitations including a smaller sample size, geographical area biases, shorter monitoring period, and single-institution nature. Hence, further longitudinal studies with a larger sample size and longer monitoring period are required to reach a definitive conclusion.

REFERENCES

1. Campo R, Santangelo F, Gordts S, et al. Outpatient hysteroscopy. *Facts Views Vis Obgyn*. 2018;10:115–22.
2. Sinha P, Gupta S, Jindal M. Evaluation of Delivery Outcomes in Pregnant Women Following Induction of Labor by Administration of Misoprostol. *International Journal of Health and Clinical Research*, 2021;4:5:11-15.
3. Chandler TM, Machan LS, Cooperberg PL, Harris AC, Chang SD. Mullerian duct anomalies: From diagnosis to intervention. *Br J Radiol*. 2009;82:1034–42.
4. Naik M, Rani S, Ratnani R. Assessing cesarean section trends in a tertiary care teaching hospital using Robson's Ten group classification. *International Journal of Health and Clinical Research*, 2021; 4(8):215-218.
5. Carneiro MM. What is the role of hysteroscopic surgery in the management of female infertility? A review of the literature. *Surg Res Pract* 2014;2014:105412.

6. Liu Y, Cheong Y, Li TC, Xia E, Zhang D, Ma Y. Impact of transcervical resection of endometrium on uterine and ovarian hemodynamics. *Reprod Biomed Online* 2007;15:57-62.
7. Van Dongen H, Janssen CA, Smeets MJ, Emanuel MH, Jansen FW. The clinical relevance of hysteroscopic polypectomy in premenopausal women with abnormal uterine bleeding. *BJOG* 2009;116:1387-1390.
8. Mostafa-Gharabaghi P, Mansourfar M, Sadeghi-Bazargani. Low dose vaginal misoprostol versus prostaglandin E2 Suppository for early uterine evacuation: A randomized clinical trial. *Pak J Biol Sci* 2010;13:946-50.
9. Dendrinou S, Grigoriou O, Sakkas EG, Makrakis E, Creatas G. Hysteroscopy in the evaluation of habitual abortions. *Eur J Contracept Reprod Health Care* 2008; 13: 198-200.
10. Yanaihara A, Yorimitsu T, Motoyama H, Iwasaki S, Kawamura T. Location of endometrial polyp and pregnancy rate in infertility patients. *Fertil Steril* 2008;90:180-2.
11. Kaminski P, Gajewska M, Wielgos M, Szymusik I, Ziolkowska K, Bartkowiak R. The usefulness of laparoscopy and hysteroscopy in the diagnostics and treatment of infertility. *Neuro Endocrinol Lett* 2006;27:813-7.

TABLES

S. No	Characteristic	Uterine Bleeding (n=183)	Infertility (n=32)	Recurrent Abortions (n=17)	p-value
1.	Mean age (years)	41.5±8.1	29.8±5.2	32.9±5.8	<0.001
2.	Age range (years)	17-48	16-39	17-41	-
3.	Menstrual status % (n)				
a)	Menopause	8.74 (16)	0 (0)	0 (0)	
b)	Amenorrhea	1.09 (2)	3.125 (1)	17.64 (3)	
c)	Irregular	57.92 (106)	31.25 (10)	11.76 (2)	
d)	Regular	32.24 (59)	65.62 (21)	70.58 (12)	
4.	Gravidity	3.6±2.7	0.6±1.6	4.2±1.6	<0.001
5.	Contraception Measure % (n)				
a)	Intrauterine device	8.74 (16)	0 (0)	0 (0)	
b)	Oral contraceptive pills	6.01 (11)	0 (0)	52.94 (9)	
c)	Condom	13.11 (24)	0 (0)	0 (0)	
d)	Withdrawal	21.85 (40)	3.125 (1)	29.41 (5)	
e)	Vasectomy	3.82 (7)	0 (0)	0 (0)	
f)	Tubal Ligation	31.14 (57)	3.125 (1)	0 (0)	
g)	None	15.30 (28)	93.75 (30)	20 (3)	
6.	Parity	3.5±2.1	0.4±0.5	1.6±1.4	<0.001
7.	Hospitalization duration	3.3±1.2	2.9±0.7	3.1±0.5	0.368
8.	Abortion	0.7±1.1	0.6±1.1	3.4±2.1	<0.001
9.	Abortion History % (n)	31.14 (57)	28.12 (9)	100 (17)	<0.001

Table 1: Demographic and disease characteristics of the study subjects

S. No	Treatment Rendered % (n)	Uterine Bleeding (n=183)	Infertility (n=32)	Recurrent Abortions (n=17)
1.	Hysteroscopy, myomectomy, and polypectomy	1.09 (2)	0	0
2.	Hysteroscopy, myomectomy, and curettage	14.75 (27)	6.25 (2)	0
3.	Hysteroscopy, curettage, and laparoscopy	0	9.37 (3)	0

4.	Hysteroscopy, curettage, and polypectomy	0	3.125 (1)	0
5.	Hysteroscopy and laparotomy	1.09 (2)	0	0
6.	Hysteroscopy and laparoscopy	4.91 (9)	37.5 (12)	41.17 (7)
7.	Hysteroscopy and hysterectomy	6.01 (11)	0	0
8.	Laparoscopy ovarian drilling	0	3.125 (1)	0
9.	Hysteroscopy and polypectomy	2.18 (4)	0	0
10.	Hysteroscopy and curettage	37.15 (68)	18.75 (6)	29.41 (5)
11.	Hysteroscopy and myomectomy	8.19 (15)	12.5 (4)	11.76 (2)
12.	Hysteroscopy	24.59 (45)	9.387 (3)	17.64 (3)

Table 2: Treatment rendered in three groups of the study subjects