

# The Effect of Hysteroscopy Combined with Diane-35 on Endometrial Polyps and Its Impact on the Recurrence Rate

Lili Wei\*

Department of Obstetrics and Gynecology, Jingyuan County People's Hospital, Baiyin 730600, China

\*Corresponding author: Lili Wei, WLL100136@163.com

**Copyright:** © 2024 Author (s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** *Objective:* To analyze the effect of hysteroscopy combined with Diane-35 on endometrial polyps and observe its value in reducing the recurrence rate. *Methods:* Between June 2022 and January 2023, 90 patients with uterine polyps who met the research criteria were included in the study. A controlled experimental design was employed, and the digital table random grouping method was utilized to divide the patients into the observation and control groups, with 45 cases in each. Patients in the control group underwent hysteroscopic polypectomy, diagnostic curettage during the operation, and routine anti-inflammatory treatment post-surgery. The observation group received Diane-35 treatment after hysteroscopy. The analysis included patient treatment effects, recurrence rate post-surgery, and endometrial thickness. *Results:* The effective rate among patients treated with combined Diane-35 was 95.56%, which was significantly higher than that among patients treated with hysteroscopy alone (82.22%;  $\chi^2 = 4.050$ ,  $P < 0.05$ ). Both groups were followed up for one year. The recurrence rate in the observation group was 2.22%, significantly lower than that in the control group (13.33%;  $\chi^2 = 3.873$ ,  $P < 0.05$ ). Preoperative endometrial thickness was compared between the two groups, showing no significant difference in the data ( $P > 0.05$ ). However, at the 6-month and 12-month follow-up post-surgery, the endometrial thickness in the observation group was significantly lower than that in the control group ( $P < 0.05$ ). After surgery, no adverse reactions such as uterine adhesion, infection, or massive bleeding occurred in either group ( $P > 0.05$ ). *Conclusion:* Hysteroscopic surgery combined with Diane-35 yields higher efficacy in patients with endometrial polyps. This approach not only improves surgical outcomes but also reduces the recurrence rate of postoperative polyps and enhances the patient's endometrial thickness, thus safeguarding the health of female patients. **Keywords:** Hysteroscopy; Diane-35; Endometrial polyps; Treatment effect; Recurrence rate

**Online publication:** February 27, 2024

## 1. Introduction

Endometrial polyps are a common gynecological disease characterized by polyp-like protrusions formed by localized proliferation of the endometrium. This condition is often accompanied by symptoms such as irregular bleeding, irregular menstruation, and fertility problems, which have a significant negative impact on patients'

quality of life and fertility. With the continuous development of medical technology, hysteroscopic surgery, as a minimally invasive treatment method, has gradually become an important choice for the treatment of endometrial polyps. Meanwhile, Diane-35, as an oral contraceptive, has also achieved remarkable results in the treatment of some gynecological diseases due to its ability to inhibit endometrial hyperplasia. Building upon this context, this study aimed to explore the efficacy of hysteroscopy combined with Diane-35 in treating endometrial polyps and its impact on the recurrence rate. A total of ninety patients with uterine polyps were recruited for the study between June 2022 and January 2023.

## 2. Materials and methods

### 2.1. Patient information

The study complied with ethical standards. The patients were informed and signed consent forms. From June 2022 to January 2023, 90 patients with uterine polyps who met the research criteria were included in the study. The inclusion criteria were: (1) The patients met the criteria for endometrial polyps' clinical diagnostic <sup>[1]</sup>; (2) The age range of participants is 18 years old and above; (3) All patients have no mental disorders and can communicate independently. The exclusion criteria included: (1) Those with severe heart, liver, kidney, and other dysfunctions; (2) Those with drug allergies used in this study; (3) Those with coagulation dysfunction; (4) Those with contraindications to surgery. Using a controlled experimental design and a digital table random grouping method, the patients were allocated into an observation group and a control group, each group with 45 cases. There was no significant difference in the general information of the two groups ( $P > 0.05$ ), which is shown in **Table 1**.

**Table 1.** Clinical data of two groups of patients

Group name	<i>n</i>	Age	Average age	The course of the disease (months)	Average disease duration (months)
Observation group	45	29–60	41.35 ± 4.38	2–10	4.19 ± 0.33
Control group	45	30–69	41.37 ± 4.27	2–9	4.25 ± 0.34
			$\chi^2 / t$		0.605
			<i>P</i>		> 0.05

### 2.2. Methods

Patients in the control group were treated with hysteroscopic polypectomy, diagnostic curettage during the operation, and routine anti-inflammatory treatment after surgery. The observation group was treated with Diane-35 after a hysteroscopy.

Hysteroscopic surgical treatment was performed 3–7 days after the patient's menstruation was clear. Routine examinations were performed before the operation, and misoprostol treatment was given one night before the operation. A total of 200–400 µg misoprostol was placed in the posterior vaginal fornix, and the uterus was expanded. Further uterus expansion was performed using the liquid, and the pressure in the uterine cavity was maintained at 100–120 mmHg. The polyp's base was removed using the circular electrosurgical knife, and the wound was trimmed. The depth of the electric resection should be 2–3 mm below the base of the polyp.

The observation group took 1 tablet of Diane-35 every day after surgery, with 3 weeks as one course of treatment, and the second course of treatment was performed 7 days apart, for a total of 3 courses.

### 2.3. Observation indicators

Analysis of treatment effects: Menstrual flow returns to normal after surgery with no irregular bleeding and the disappearance of various clinical symptoms was defined as “markedly effective”; Menstrual flow decreases after the operation with the occurrence of a small amount of irregular bleeding but does not affect daily life was defined as “effective”; The condition did not improve after treatment and relapse occurred was defined as “ineffective”<sup>[2]</sup>. The total effective rate is the sum of the markedly effective rate and the effective rate.

Analysis of postoperative recurrence rate.

Analysis of endometrial thickness.

Analysis of postoperative adverse reactions.

### 2.4. Statistical methods

SPSS 20.0 was used for article data analysis, the  $\chi^2$  test was utilized for enumeration data, and the *t*-test was employed for measurement data.  $P < 0.05$  was considered a statistically significant difference.

## 3. Results

### 3.1. Comparison of treatment effects

**Table 2** shows that the effective rate of patients treated with Diane-35 was 95.56%, which was significantly higher than that of patients treated with hysteroscopic surgery alone (82.22%,  $P < 0.05$ ).

**Table 2.** Comparison of patient treatment effects

Group	<i>n</i>	Markedly effective	Effective	Ineffective	Total effective rate
Observation group	45	20	23	2	95.56%
Control group	45	17	20	8	82.22%
$\chi^2$	-	-	-	-	4.050
<i>P</i>	-	-	-	-	0.044

### 3.2. Comparison of postoperative recurrence rates

As shown in **Table 3**, a one-year follow-up of both groups found that the observation group’s recurrence rate was 2.22%, which was significantly lower than the control group (13.33%,  $P < 0.05$ ).

**Table 3.** Analysis of patient recurrence rates

Group name	<i>n</i>	3 months after the operation	6 months after the operation	12 months after the operation	Recurrence rate
Observation group	45	0	0	1	2.22%
Control group	45	0	3	3	13.33%
$\chi^2$	-	-	-	-	3.873
<i>P</i>	-	-	-	-	0.049

### 3.3. Comparison of endometrial thickness

The preoperative endometrial thickness of both groups showed no significant difference ( $P > 0.05$ ). However, at 6- and 12-month follow-ups after the operation, the postoperative endometrial thickness was significantly lower in the observation group as compared to those in the control group ( $P < 0.05$ ), as seen in **Table 4**.

**Table 4.** Endometrial thickness after surgery (mm)

Group name	<i>n</i>	Pre-operation	6 months post-operation	12 months post-operation
Observation group	45	8.82 ± 1.44	6.91 ± 0.51	4.62 ± 0.53
Control group	45	8.83 ± 1.56	7.35 ± 0.78	6.19 ± 0.62
<i>t</i>		0.032	3.167	12.912
<i>P</i>		0.975	0.002	0.001

### 3.4. Comparison of postoperative adverse reactions

After the operation, no patients in either group suffered from adverse reactions such as intrauterine adhesions, infections, or massive bleeding. However, only one headache was observed after oral administration of Diane-35 occurred in the observation group, with an incidence rate of 2.22%. There was no significant difference between both groups ( $P > 0.05$ ).

## 4. Discussion

Endometrial polyps are a common gynecological disease. Their main pathological characteristic is local hyperplasia of the endometrium, forming polyp-like protrusions. Polyps can be located in different parts of the uterine cavity, including the internal cervical os and uterine cavity wall. Although the cause is unclear, changes in hormone levels, chronic endometritis, and other physiological and pathological factors are believed to be related to endometrial polyps. Patients often experience symptoms such as irregular menstruation, abnormal vaginal bleeding, and infertility that seriously affect the quality of daily life [3].

Hysteroscopic surgery, as a minimally invasive surgical technique, has been widely used in the treatment of gynecological diseases, including endometrial polyps. Introducing a hysteroscope into the uterine cavity allows the structure of the uterine cavity to be visually observed, and treatment is performed through the tiny operating channel. Compared with traditional laparotomy, hysteroscopic surgery has the advantages of less bleeding and faster postoperative recovery, so it is very popular in the treatment of endometrial polyps. However, recurrence may occur after surgery. Some researchers have suggested that the postoperative recurrence of patients is related to the body's estrogen secretion levels [4]. After surgery, the patient's estrogen levels increase, which will lead to proliferative changes in the endometrial base, thus causing recurrence. Hence, clinical research focuses on how to ensure the effect of hysteroscopic surgery and reduce the recurrence rate. Diane-35 is ethinyl estradiol and cyproterone tablets [5], which is an oral contraceptive. Its main ingredients include cyproterone acetate and ethinyl estradiol. In addition to its contraceptive effect, the drug is also widely used in the treatment of gynecological diseases, such as acne, female androgenic alopecia, mild hirsutism, and polycystic ovary syndrome. It inhibits endometrial hyperplasia, regulates hormone levels, and improves hormone-related gynecological symptoms [6].

After hysteroscopic treatment of uterine polyps, taking Diane-35 can achieve the following effects. Firstly, this drug is a synthetic estrogen that has an estrogenic effect on endometrial cells. By simulating the effects of estrogen in the body, ethinyl estradiol can inhibit the proliferation of the endometrium and slow down the rate of tissue regeneration, thus affecting the formation and development of polyps [7]. In addition, cyproterone in Diane-35 has the effect of inhibiting ovulation and changing the structure of the endometrium. By inhibiting the formation and function of the corpus luteum, it regulates hormone levels, slows down the proliferation of the endometrium, and inhibits the formation and recurrence of polyps. Moreover, since the formation of endometrial

polyps is closely related to the inflammatory response, the components of Diane-35 may inhibit the occurrence and development of the inflammatory response, reduce tissue inflammation, promote postoperative blood circulation, and accelerate postoperative healing. It helps reduce the formation and recurrence of polyps [8], and Diane-35 further inhibits the re-formation of polyps by adjusting the activity of the immune system, reducing postoperative inflammatory response, and reducing tissue immunogenicity. Therefore, combined with Diane-35 after hysteroscopy, the drug's inhibitory effect on the endometrium helps reduce the recurrence rate of endometrial polyps, adjusts hormone levels, and slows the proliferation of endometrial cells, thereby reducing the re-formation of polyps, providing patients with a more stable and long-term treatment effect [9]. And the author believes that patients with endometrial polyps are usually accompanied by symptoms such as irregular menstruation and abnormal vaginal bleeding. Taking Diane-35 after surgery, its estrogen component can regulate hormone levels, relieve the above symptoms, and improve the patient's quality of life.

Chen discussed the effect of hysteroscopic endometrial polyp resection combined with ethinyl estradiol cyproterone tablets in the treatment of patients with endometrial polyps and conducted a study on 80 patients with endometrial polyps using the random number table method [10]. They were divided into an observation group (40 cases) and a control group (40 cases). The control group was treated with hysteroscopic endometrial polyp resection, while the observation group was treated with ethinyl estradiol cyproterone tablets. The results were as follows: After 6 months, the total effective rate of the observation group reached 97.50%, which was higher than the control group (75.00%,  $P < 0.05$ ), and the proportion of normal menstruation in the observation group was significantly higher than that of the control group ( $P < 0.05$ ). The film thickness was  $5.72 \pm 1.52$  mm, thinner than the control group ( $7.64 \pm 1.91$  mm). Regarding recurrence rate, the observation group was 2.50%, which was significantly lower than the control group (15.00%,  $P < 0.05$ ). It was concluded that hysteroscopic endometrial polyp resection combined with ethinyl estradiol cyproterone tablets has a significant effect on the treatment of endometrial polyps, which can promote the recovery of patients' symptoms, improve endometrial thickness and reduce the recurrence rate. This is similar to the results of this study. The effective rate of patients treated with Diane-35 was 95.56%, and the recurrence rate was 2.22%, while the effective rate of single hysteroscopic surgery was 82.22%, and the recurrence rate was 13.33%. The difference between the groups is statistically significant ( $P < 0.05$ ). At the 6-month and 12-month follow-ups after surgery, it was found that the endometrial data of the observation group was significantly lower than that of the control group ( $P < 0.05$ ), which further confirmed the efficacy of Diane-35. Hysteroscopy combined with Diane-35 can effectively improve the surgical effect of endometrial polyps and reduce the postoperative recurrence rate.

In summary, for patients with endometrial polyps, the combination treatment of hysteroscopic surgery and Diane-35 is highly effective. It improves the surgical effect, reduces the recurrence rate of postoperative polyps, and improves the patient's health.

## Disclosure statement

The author declares no conflict of interest.

## References

- [1] Li J, 2019, Clinical Efficacy of Hysteroscopy Combined with Ethinyl Estradiol and Cyproterone Tablets in Treating Patients with Endometrial Polyps. *Medical Equipment*, 32(24): 72–73.
- [2] Lai Y, 2019, Observation on the Postoperative Recurrence of Endometrial Polyps After Hysteroscopic Surgery and the Effect of Diane-35 on Preventing Recurrence. *Electronic Journal of Practical Gynecological Endocrinology*,

6(18): 26–28.

- [3] Zhang X, 2019, Observation on the Effect of Hysteroscopy Combined with Diane-35 in Treating Endometrial Polyps. *Journal of Rational Clinical Drug Use*, 12(13): 67–68.
- [4] Gu H, 2019, Clinical Effect of Hysteroscopy Combined with Ethinyl Estradiol and Cyproterone Tablets in Treating Patients with Endometrial Polyps. *Medical Equipment*, 32(6): 100–101.
- [5] Ke X, Song Y, 2024, Effect of Hysteroscopic Electroreception in the Treatment of Patients with Abnormal Uterine Bleeding Caused by Endometrial Polyps. *Chinese Minkang Medicine*, 36(1): 76–78.
- [6] Mo P, Zou J, Cai Y, et al., 2023, Clinical Study on Hysteroscopic Surgery Combined with Different Drugs in the Treatment of Elderly Patients with Endometrial Polyps. *Chinese Journal of Clinical Pharmacology*, 39(22): 3228–3232.
- [7] Zhu Y, 2023, Clinical Application Effect of the Hysteroscopic Planning System Combined with Ethinyl Estradiol Cyproterone Tablets in Treating Patients with Endometrial Polyps. *Medical Theory and Practice*, 36(5): 815–817.
- [8] Peng H, Cai H, Lin G, et al., 2023, Comparison of the Efficacy of Different Treatment Options after Hysteroscopic Polypectomy. *Chinese and Foreign Medicine*, 42(1): 5–9.
- [9] Qiu Z, Deng Y, Yi Q, 2022, Effects of Diane-35 and Mirena on Postoperative Endometrial Thickness and Hormone Levels in Patients Undergoing Hysteroscopic Endometrial Polypectomy. *Practical Integration of Traditional Chinese and Western Medicine Clinical*, 22(18): 26–28 + 102.
- [10] Chen Y, 2022, Clinical Effect of Hysteroscopic Endometrial Polyp Resection Combined with Ethinyl Estradiol Cyproterone Tablets in Treating Patients with Endometrial Polyps. *Chinese and Foreign Medical Research*, 20(2): 110–113.

**Publisher's note**

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.