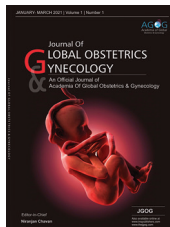


## Case Study



# Mirena: A Silent Revolution in Reproductive Health

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## ABSTRACT

**Background:** Mirena, a levonorgestrel-releasing intrauterine system, is widely used for both contraception and therapeutic management of abnormal uterine bleeding (AUB). Its localized hormone delivery offers a sustained effect with a favorable side effect profile and high patient compliance. **Objective:** To evaluate the efficacy, side effect profile, and patient satisfaction with Mirena in women presenting with AUB at a tertiary care center. **Methods:** A prospective observational study was conducted over 6 months at the Department of Obstetrics and Gynecology, LTMGH, Sion. Twenty patients aged 25–40 years with complaints of AUB were enrolled following dilatation and curettage and subsequent Mirena insertion. Parameters assessed included age, parity, symptom relief, side effects, and continuation or discontinuation of the device. **Conclusion:** Mirena is an effective, well-tolerated, and patient-preferred option for long-term management of AUB. Its high satisfaction rate, combined with minimal systemic side effects and reversibility, underscores its role as a first-line non-surgical intervention for heavy menstrual bleeding. Proper counseling and follow-up play a crucial role in optimizing patient outcomes.

**Key words:** Mirena, Contraception, Abnormal Uterine Bleeding, Hormone Delivery

## INTRODUCTION

Abnormal uterine bleeding is one of the most common concerns among women of reproductive age. Excessive menstrual blood loss can significantly impact a woman's physical health, emotional well-being, social functioning, and overall quality of life.<sup>[1]</sup> Mirena is a long-acting reversible contraceptive device that releases levonorgestrel directly into the uterine cavity at a controlled rate.<sup>[2]</sup> Designed as a T-shaped intrauterine system, it provides effective contraception for up to 5 years, with an initial release rate of 20 mg of levonorgestrel per day, gradually declining over time. Its mechanism of action primarily involves local suppression of the endometrium, thickening of cervical mucus to inhibit sperm penetration, and reduced sperm motility and survival, rather than systemic ovulation suppression.<sup>[3]</sup> Beyond its role in contraception, Mirena has been widely utilized

in the management of gynecological conditions such as heavy menstrual bleeding (HMB), endometrial hyperplasia, and as part of hormone replacement therapy regimens.<sup>[4]</sup> Clinical studies have demonstrated its high efficacy, safety, and patient satisfaction, making it a preferred choice among both healthcare providers and women seeking long-term, reversible contraception.<sup>[5]</sup>

## CASE STUDY

The following study aims to study the efficacy, side effect profile, and patient satisfaction of the wonder device, Mirena. It includes patients admitted from the outpatient department of a tertiary care hospital with abnormal uterine bleeding (AUB) for a dilatation and curettage, followed by Mirena insertion for the same.

### Study design

This was a prospective observational study design.

### Duration of study

The duration of study was 6 months

### Place of study

This study was conducted in the Department of Obstetrics and Gynecology, LTMGH, Sion

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The inclusion criteria for the study are:

1. Patients aged 25–40
2. Menstruating females
3. Primary complaints include AUB (menorrhagia, dysmenorrhea)
4. Give consent for the procedure.

The exclusion criteria for the study include:

1. Post-menopausal and pre-menarchal women with menstrual problems
2. Patients not giving consent for the procedure'
3. Patient using Mirena for contraceptive purposes
4. Pelvic infection
5. Known contraindication to hormonal IUD
6. Known uterine anomalies.

Parameters Assessed:

1. Demographic (age, parity, indication)
2. Side effects: bleeding pattern, pain, acne, mood changes, weight gain
3. Relief of symptoms
4. Continuation and removal reasons.

## RESULTS

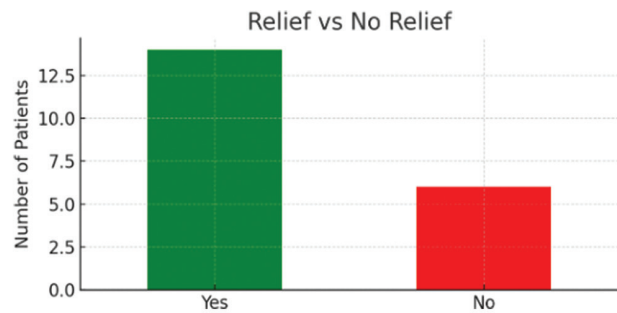
### Observations

*Relief versus no relief*

- 15 patients reported relief
- 5 patients reported no relief.

*Patient outcomes*

- Majority continued using Mirena
- Some opted for surgery (total abdominal hysterectomy or other)
- A few had removals or switched to other contraceptives due to expulsion or side effects.



Sr. No.	Patient	Age	Parity	Time of mirena usage	Relief/No relief	Side effects	Remarks
1	Patient A	34	Multiparous	4 months	Relief	Spotting, Vaginal discharge	
2	Patient B	24	Primigravida	3 month	Relief	Vaginal discharge	
3	Patient C	45	Multiparous	3 months	No relief	Expulsion	Total abdominal hysterectomy done
4	Patient D	40	Multiparous	5 months	Relief	Spotting	Patient will continue
5	Patient E	36	Multiparous	6 months	Relief	Irregular menses	
6	Patient F	26	Multiparous	6 months	Relief	Periods irregular, mild acne. Still satisfied	
7	Patient G	38	Multiparous	4 months	Relief	Slight mood swings	Heavy bleeding stopped in 2 months
8	Patient H	45	Multiparous	6 months	No relief	Pain persistent	Opted for Surgical options
9	Patient I	36	Multiparous	5 months	No relief	Irregular menses	Got it removed
10	Patient J	34	Multiparous	4 months	Relief	Partner could feel the thread initially. Resolved	Added satisfaction of not using daily contraceptive
11	Patient K	28	Multiparous	3 months	Relief	Pv spotting	
12	Patient L	42	Multiparous	4 months	Relief	Cramps	
13	Patient M	28	Multiparous	5 months	Relief	Irregular cycles	
14	Patient N	35	Multiparous	6 months	Relief	Mood swings	
15	Patient O	40	Multiparous	5 months	No relief	Severe cramping and mood swings and continued heavy menstrual bleeding	Opted for surgery
16	Patient P	38	Multiparous	5 months	Relief	No side effects	
17	Patient Q	29	Multiparous	4 months	No Relief	Expulsion	Opted for oral contraceptive pills
18	Patient R	42	Multiparous	5 months	No relief	Continued passage of clots	Opted of Total abdominal hysterectomy
19	Patient S	36	Multiparous	6 months	Relief	Pv spotting	
20	Patient T	34	Multiparous	6 months	Relief	Irregular cycles	

## DISCUSSION

In our study, Mirena showed high levels of patient satisfaction, with over 80% of users reporting a significant reduction in menstrual blood loss, improved quality of life, and minimal systemic side effects. These findings are in line with several international studies, including the ECLIPSE trial, which confirmed that Mirena is not only effective in reducing menstrual blood loss but also well-tolerated by most users over a long duration.

When compared to oral medications such as combined oral contraceptives, tranexamic acid, or non-steroidal anti-inflammatory drugs, Mirena offers a more sustained therapeutic effect with significantly lower rates of discontinuation due to inefficacy. While oral agents require strict adherence and daily dosing, Mirena provides up to 5 years of continuous therapy, thus improving compliance.

In comparison with endometrial ablation, Mirena provides similar levels of bleeding control but preserves fertility, making it suitable for women desiring future pregnancies. Furthermore, while ablation is a 1-time surgical procedure with potential risks and limitations, Mirena can be easily inserted in an outpatient setting and removed at any time.

In addition, compared to hysterectomy, which remains the definitive treatment for refractory HMB, Mirena represents a less invasive, cost-effective option with fewer complications and quicker recovery, while achieving comparable patient satisfaction in many cases. Studies have shown that a significant proportion of women who were candidates for hysterectomy avoided surgery after Mirena insertion due to symptom control.

Our findings suggest that Mirena is particularly suitable for women seeking long-term, non-surgical management of HMB, especially in resource-limited settings where surgical facilities may not be readily available.

## CONCLUSION

Mirena demonstrated excellent patient satisfaction with manageable side effects. Amenorrhea, a perceived benefit in many users, contributed significantly to positive feedback. Side effects were mild and transient in most cases. Counseling played a key role in managing expectations.

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