



2023

Section: Obstetrics and Gynecology

The Efficacy Of Intraoperative Intrauterine Iud Insertion During Cesarean Section

Ehab Hassanin Mohammad

Department of Obstetrics and Gynecology, Faculty of Medicine for boys, Al-Azhar University, Cairo, Egypt

El Metwally Farouk El Shahat

Department of Obstetrics and Gynecology, Faculty of Medicine for boys, Al-Azhar University, Cairo, Egypt

Mohamed Atef Ibrahim Abd eldaim

Department of Obstetrics and Gynecology, Faculty of Medicine for boys, Al-Azhar University, Cairo, Egypt,
mohamed_2011.net1234@yahoo.com

Follow this and additional works at: <https://aimj.researchcommons.org/journal>



Part of the [Medical Sciences Commons](#), [Obstetrics and Gynecology Commons](#), and the [Surgery Commons](#)

How to Cite This Article

Mohammad, Ehab Hassanin; Shahat, El Metwally Farouk El; and eldaim, Mohamed Atef Ibrahim Abd (2023) "The Efficacy Of Intraoperative Intrauterine Iud Insertion During Cesarean Section," *Al-Azhar International Medical Journal*: Vol. 4: Iss. 12, Article 23.

DOI: <https://doi.org/10.58675/2682-339X.2148>

This Original Article is brought to you for free and open access by Al-Azhar International Medical Journal. It has been accepted for inclusion in Al-Azhar International Medical Journal by an authorized editor of Al-Azhar International Medical Journal. For more information, please contact dryasserhelmy@gmail.com.

ORIGINAL ARTICLE

The Efficacy of Intraoperative Intrauterine Device Insertion During Cesarean Section

Mohamed Atef Ibrahim Abd eldaim*, Ehab Hassanin Mohammad,
El Metwally Farouk El Shahat

Department of Obstetrics and Gynecology, Faculty of Medicine for Boys, Al-Azhar University, Cairo, Egypt

Abstract

Background: The intrauterine contraceptive device (IUD) can be placed at a cesarean section (CS) for the first time in a woman's life. If the IUD is safe and effective for CS scars, they may use it as a long-acting reversible contraception.

Objectives: To evaluate CS intraoperative intrauterine IUD implantation.

Patients and methods: The Al-Azhar University Faculty of Medicine's Obstetrics and Gynecology Department conducted a randomised controlled experiment on 40 women.

Results: Our population had 5.2 % significant bleeding, displacement, and infection and 12.8 % discontinuation. 0 % failed. After 2 months, 87.2 % of patients were satisfied.

Conclusion: Tubal ligation and immediate postplacental implantation of an intrauterine contraceptive device (IUCD) are both alternatives after a cesarean birth. IUCDs may have advantages. IUCDs are as successful as tubal ligation but can be reversed. Intraoperative intrauterine IUD insertion after cesarean delivery (CD) requires bigger sample sizes to determine success.

Keywords: Cesarean section, Intrauterine device, Postplacental insertion

1. Introduction

Intrauterine contraceptive device (IUDs) are popular and effective birth control methods. Its many advantages over other contraception methods, especially long-acting hormonal ones, have made it popular in Egypt.^{1,2} IUDs are noncoital, have no systemic effects, persist for a long period, and are easily removal, restoring fertility quickly.²

Aseptic insertion may minimize IUD-related increased monthly bleeding, period irregularities, and infections.³

The most worrying risk is IUD displacement, especially if it has gone beyond the uterus and requires surgery (typically endoscopic) to remove. Patients who remove their IUDs risk unexpected pregnancies and health issues.⁴

IUD displacement is most often caused by incorrect insertion technique or timing. Thus, proper IUD insertion is critical.⁴

After a cesarean section (CS), some gynecologists insert an IUD after the placenta is removed, while others wait until 42 days or 6 months later. However, most wait three months after the operation.⁵

However, scheduling a follow-up visit after birth can be difficult, and nearly half of pregnant women who planned to use an IUD for postpartum contraception did not get one.⁶

2. Patient and methods

The purpose of this randomized controlled experiment was to investigate whether or not it is beneficial to install an intrauterine device (also known as an IUD) after the placenta has been removed during a cesarean procedure. The

Accepted 7 July 2023.
Available online 29 January 2024

* Corresponding author.
E-mail address: Mohamed_2011.net1234@yahoo.com (M.A.I. Abd eldaim).

<https://doi.org/10.58675/2682-339X.2148>

2682-339X/© 2023 The author. Published by Al-Azhar University, Faculty of Medicine. This is an open access article under the CC BY-SA 4.0 license (<https://creativecommons.org/licenses/by-sa/4.0/>).

timetable for the study called for completion within four months of receiving clearance from the committee.

2.1. Exclusion criteria

Surgical marks on the upper abdomen wall, scars from a previous myomectomy or cesarean section, or both After a cesarean with placenta accrete or placenta previa, chorioamnionitis, uterine anomaly, or cervical anomaly, and bleeding tendency, or abnormal coagulation profile, are all infections that can be noticed at the time of CS. Placenta accrete is a condition in which the placenta grows into the abdominal cavity rather than lying flat against the uterus.

2.2. Ethical and legal consideration

The department of Obstetrics and Gynecology in the Faculty of Medicine at Al-Azhar University was contacted to request permission for male students to study patient records.

The identities of the women were recorded on the data collecting sheet, which the investigator made sure to keep confidential. After providing the ladies who are taking part in this research with all of the information that there is to know about the investigation, we acquired their informed consent.

2.3. Protocol approval

Before the beginning of the study, the protocol and any other material that supports it were presented to the local ethical committee of the Obstetrics and Gynecology department at Al-Azhar University for the purpose of review and approval. This step is necessary to comply with the regulations that are in effect in the area.

2.4. Methodology

The following procedures were performed on the people who are eligible for them: obtaining a history, performing a general examination, performing an abdominal examination, performing preoperative abdominal ultrasonographic examinations, doing a local photovoltaic examination, performing preoperative investigations. Lower segment cesarean section, abbreviated as LSCS Insert the IUD using your hands directly above the fundus of the uterus (Copper T380). Before sealing the incision, you should wrap the strings around the portion of the uterus that is the lowest. Insertion tube for intrauterine device that is used to thread strings

through the cervix., The patient had a follow-up appointment in 6 weeks, 2 months, and 4 months. The patient had a follow-up complete blood count (CBC) (Hb – white blood cells (WBCs) 48 h after the operation, and they graded the patient's post-operative discomfort using a visual analog scale (VAS).

2.5. Statistical analysis design

The acquired data was evaluated, and the coding was done by hand. These numeric identifiers were entered into a computer and analysed statistically with the use of the Statistic Package for the Social Sciences, Version 22 (SPSS 22) for Windows. Statistical descriptions: Numbers and percentages were used to represent qualitative data, whereas means and standard deviations were used to represent quantitative data (Table 1).

3. Results

The current study included 50 females, their age ranged between 19 and 39 y with mean value of 29.550 ± 5.114 years. Most of them were multipara 82.5 % (Figs. 1 and 2 and Table 2).

The mean value of hemoglobin before labor was 10.865 ± 0.597 gm/dl and the mean value of hemoglobin after labor was 10.865 ± 0.597 gm/dl. The mean value of WBCs before labor was 7–15 thousand cell/mm³ and the mean value of WBCs after labor was 13.775 ± 2.444 15 thousand cell/mm³ (Table 3).

There was an average of 703.750 ± 142.499 ml of bleeding and an average of 2.175 ± 0.958 pain scores in the first 24 h after surgery. Between 35 and 90 min, surgical time varied widely (Table 4).

Among our studied population, high bleeding and infection occurred in 5 % for each while

Table 1. Descriptive clinical data of the studied population.

	No. = 40
Age (y)	
Mean \pm SD	29.550 ± 5.114
Range	19–39
BMI	
Mean \pm SD	29.085 ± 4.754
Range	19–38
Gravity	
PG	7 (17.5 %)
Multipara	33 (82.5 %)
Parity	
No	7 (17.5 %)
P1	11 (27.5 %)
P2	13 (32.5 %)
P3	7 (17.5 %)
P4	1 (2.5 %)
P5	1 (2.5 %)

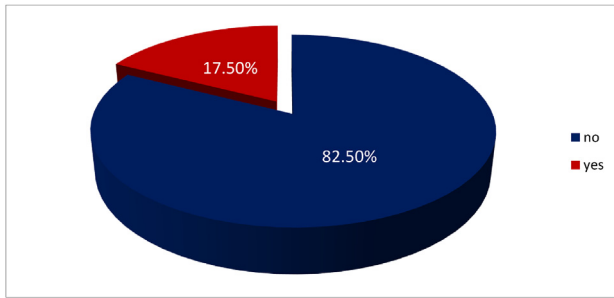


Fig. 1. Previous abortion in the studied population.

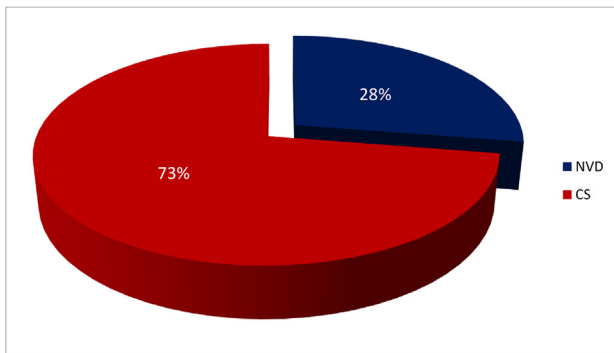


Fig. 2. Previous labor in the studied population.

Table 2. Descriptive laboratory data of the studied population.

	No. = 40
Hemoglobin before labor (gm/dl)	
Mean ± SD	10.865 ± 0.597
Range	9.7–12.1
Hemoglobin after labor (gm/dl)	
Mean ± SD	10.372 ± 0.572
Range	9.2–11.2
WBCs ×103 cell/mm ³ before labor	
Mean ± SD	10.850 ± 2.094
Range	7–15
WBCs ×103 cell/mm ³ after labor	
Mean ± SD	13.775 ± 2.444
Range	9–22

displacement and discontinuation occurred in 2.5 % for each. Most patients 92.5 % were satisfied at 6 weeks follow-up (Table 5).

Table 3. Descriptive immediate delivery data of the studied population.

	No. = 40
Duration of surgery	
Mean ± SD	49.100 ± 12.359
Range	35–90
Immediate postoperative Bleeding	
Mean ± SD	703.750 ± 142.499
Range	500–1000
Immediate Postoperative Pain score	
Mean ± SD	2.175 ± 0.958
Range	1–6

Table 4. Descriptive follow-up data at 6 weeks of the studied population.

	No. = 40
Displacement	
Yes	1 (2.5 %)
NO	39 (97.5 %)
Bleeding	
Average	38 (95 %)
High	2 (5 %)
Infection	
Yes	2 (5 %)
No	38 (95 %)
Discontinuation	
Yes	1 (2.5 %)
No	39 (97.5 %)
Satisfaction	
Yes	37 (92.5 %)
No	3 (7.5 %)

Table 5. Descriptive follow-up data at 2 months of the studied population.

	No. = 39
Displacement	
Yes	2 (5.2 %)
NO	37 (94.8 %)
Bleeding	
Average	37 (94.8 %)
High	2 (5.2 %)
Infection	
Yes	2 (5.2 %)
No	37 (94.8 %)
Discontinuation	
Yes	5 (12.8 %)
No	34 (87.2 %)
Satisfaction	
Yes	34 (87.2 %)
No	5 (12.8 %)
Failure	
Yes	0
No	39 (100 %)

Table 6. Descriptive follow-up data at 4 months of the studied population.

	No. = 34
Displacement	
Yes	0 (0 %)
NO	34 (100 %)
Bleeding	
Average	34 (100 %)
High	0
Infection	
Yes	1 (2.9 %)
No	33 (97.1 %)
Discontinuation	
Yes	1 (2.9 %)
No	33 (97.1 %)
Satisfaction	
Yes	33 (97.1 %)
No	1 (2.9 %)
Failure	
Yes	0
No	34 (100 %)

Among our studied population, high bleeding, displacement and infection occurred in 5.2 % for each while discontinuation occurred in 12.8 % of cases. Failure rate was 0 %. Most patients 87.2 % were satisfied at 2 months follow-up (Table 6).

Among our studied population, infection and discontinuation occurred in 2.9 % for each. Most patients 97.1 % were satisfied at 4 months follow-up.

4. Discussion

More than 100 million postpartum women around the world make the decision to start using birth control each year. It would be to everyone's advantage if there were family planning programs and methods of birth control that were easy to access and well-designed.⁷

IUDs are safe and effective birth control.²

50 females aged 19–39 was studied, with a mean age of 29.550 ± 5.114 years. Multipara 82.5 %. 17.5 % of women had abortions. CS made 72.5 % and NVD 27.5 %.

In line, An Egyptian study examined how successfully placing an IUD (Copper T380) after CS worked. Elsokary et al.⁸ examined 51 women aged 19–41 with a mean of 29.6 ± 5.65 years. Parity varied between 1 and 6 with mean 2.37 ± 1.22 . Gravity ranged from 1 to 5, averaging 2.41 ± 2.04 . 1–4 cesarean scars had a mean value of 1.9 ± 0.711 .

Hemoglobin before and after labor was 10.865 ± 0.597 gm/dl. WBCs were 7–15 thousand cell/mm³ before labor and 13.775 ± 2.444 after labor.

Several research were similar (Kittur and Kabadi, Malik et al., Jani)^{9–11}. showed nearly results.

Vrania and Delia's study¹² agreed. Observed that more than 10 000 white blood cells/mm³ of blood, hemoglobin before labor was 11.5 ± 0.41 gm/dl, and WBCs after labor were 12.85 ± 1.233 thousand cell/mm³.

The mean value of immediate postoperative bleeding was 703.750 ± 142.499 ml and the mean value of immediate postoperative pain score was 2.175 ± 0.958 . The duration of surgery ranged between 35 and 90 min.

According to Elsokary *et al.*⁸ surgery lasts 35–45 min with a mean value of 35.2 ± 2.70 min. The IUD's installation lengthened the surgery. 7/51 (13.73 %), 2/51 (3.92 %), and 5/51 (9.80 %) women had moderate, severe, or abnormal uterine hemorrhage. 7/51 (13.73 %) had postoperative discomfort.

Among our studied population, high bleeding and infection occurred in 5 % for each while displacement and discontinuation occurred in 2.5 % for each. Most patients 92.5 % were satisfied at 6 weeks follow-up.

Levi et al.¹³ found similar outcomes, with 92 % (36/39) of women in the intra-cesarean group being satisfied with their IUDs.

Among our studied population, high bleeding, displacement, and infection occurred in 5.2 % for each while discontinuation occurred in 12.8 % of cases. The failure rate was 2.6 %. Most patients 87.2 % were satisfied at 2 months follow-up.

In line with our findings, Ragab et al.¹⁴ studied 40 women who had IUD (Cu-T380A) insertion during cesarean section. At two months follow-up, only 3 (8 %) reported pain, 6 (15 %) had bleeding, 1 (3 %) had infection, and 90.1 were satisfied.

Among our studied population, infection and discontinuation occurred in 2.9 % for each. Most patients 97.1 % were satisfied at 4 months follow up.

Along with our study was Levi et al.¹³ reported that, There is little need to worry about infection after a postplacental insertion, and studies comparing different insertion times have found no significant differences in infection rates.

Usha¹⁵ found that 4.2 % of women were infected at 4 months follow up, yet 97.1 % were happy. 0.2 % had fever during follow-up. No patients had pregnancy, perforation, or a foul-smelling discharge during follow-up.

4.1. Conclusion

Although tubal ligation and the immediate postoperative insertion of an IUCD are both choices that can be taken during a CD, IUCDs have a few benefits over tubal ligation. Even though IUCDs are exactly as effective as tubal ligation, patients may be more amenable to IUCDs because of the counseling component. Future research must utilize a larger sample size if it is to be able to answer the question of whether or not the implantation of an intraoperative intrauterine IUD during a CS is successful.

Disclosure

The authors have no financial interest to declare about the content of this article.

Authorship

All authors have a substantial contribution to the article.

Conflicts of interest

The authors declared that there were NO conflicts of Interest.

References

1. Awadalla HI. Contraception use among Egyptian women: results from Egypt demographic and health survey in 2005. *J Reproduction Infertil.* 2012;13:167.
2. Cleland J, Ali M, Benova L, Daniele M. The promotion of intrauterine contraception in low-and middle-income countries: a narrative review. *Contraception.* 2017;95:519–528.
3. Bashir M, Ashraf S, Qureshi MK, Ali SS, Mahmud M, Yusuf L. Comparison of complications of postpartum iucd (ppiucd) insertion with interval iucd insertion. *Pakistan Journal of Medical & Health Sciences.* 2022;16, 722–722.
4. Gupta S, Malik S, Sinha R, Shyamsunder S, Mittal M. Association of the position of the copper T 380A as determined by the ultrasonography following its insertion in the immediate postpartum period with the subsequent complications: an observational study. *J Obstet Gynaecol India.* 2014;64:349–353.
5. Goldstuck ND, Steyn PS. Intrauterine contraception after cesarean section and during lactation: a systematic review. *Int J Women's Health.* 2013;5:811–818.
6. Espey E, Ogburn T. Long-acting reversible contraceptives: intrauterine devices and the contraceptive implant. *Obstet Gynecol.* 2011;117:705–719.
7. EL Tmamy EAR, Abd Elfttah AT, Elmohandes MI, Mohamed A. Prospective study of intraoperative intrauterine contraceptive device application during cesarean section. *The Egyptian Journal of Hospital Medicine.* 2018;70:1627–1630.
8. Elsokary A, Elkhyat A, Elshwaikh S. Evaluation of post-placental IUD insertion during cesarean section at a tertiary care hospital in Egypt. *Open J Obstet Gynecol.* 2020;10: 516–525.
9. Kittur S, Kabadi Y. Enhancing contraceptive usage by post-placental intrauterine contraceptive devices (PPIUCD) insertion with evaluation of safety, efficacy, and expulsion. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology.* 2012;1:26–33.
10. Singh S, Malik R, Ahalawat R, Taneja BK. Evaluation of efficacy, expulsion and safety of post-placental and intra-cesarean insertion of intrauterine contraceptive devices. *Int J Reprod Contracept Obstet Gynecol.* 2017;4:2005–2009.
11. Jani PS. Prospective study on outcomes of postpartum intrauterine contraceptive device including safety, efficacy and expulsion at GMERS Medical College, Dharpur-Patan, Gujarat, India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology.* 2018;7:3131–3136.
12. Vrania E, Delia T. Intrauterine devices—Past, present and future perspectives. *Farm Vestn.* 2006;57:14–23.
13. Levi EE, Stuart GS, Zerden ML, Garrett JM, Bryant AG. Intrauterine device placement during cesarean delivery and continued use 6 months postpartum: a randomized controlled trial. *Obstet Gynecol.* 2015;126:5.
14. Ragab A, Hamed HO, Alsammani MA. Expulsion of Nova-T380, Multiload 375, and Copper-T380A contraceptive devices inserted during cesarean delivery. *International Journal of Gynecology & Obstetrics.* 2015;130:174–178.
15. Usha Rani N. *Evaluation of Safety, Efficacy and Expulsion of Post Placental Insertion of Intrauterine Contraceptive Device.* Thanjavur: Thanjavur Medical College; 2018.