Section: Obstetrics & Gynecology

Original Research Article

A COMPARITIVE STUDY ON SAFETY AND EFFICACY AND COMPLICATIONS OF INTRA CAESAREAN INSERTION OF IUCD AND POST CESAREAN INSERTION OF IUCD

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ABSTRACT

Background: A comparative study on safety and efficacy and complications of intra caesarean insertion of IUCD and post caesarean insertion of IUCD.

Materials and Methods: The study was conducted in the Department of Obstetrics and Gynaecology, Niloufer Hospital, Osmania Medical college hospital, Hyderabad. All patients delivered at, Niloufer Hospital, Osmania Medical College hospital during the study period, fulfilling the inclusion criteria and willing to participate in the study. Mode of delivery is Caesarean section.

Results: In our study group, maximum women were within the age group of 18-24 years (55%) followed by 29-30 years. Which found that acceptance of PPIUCD was best within the age bracket of 21-25 years (39.33% and 44%, respectively). The mean age of acceptance as 23.70 years for post-partum copper T insertion, concluding that the acceptance of PPIUCD as contraception was more within the younger age group (≤30 years). Among the PPIUCD acceptors, majority were primi gravida. This shows that PPIUCD is commonly used among women as a short term contraceptive to space out their pregnancies. Multigravida preferring PPIUCD had history of use of PPIUCD in their previous pregnancy. The usage rate increased as these women were comfortable using PPIUCD earlier and PPIUCD removed the need for permanent sterilisation allowing the women to conceive at a later date if necessary.

Conclusion: PPIUCD awareness among the study group was insufficient as many mothers were not aware of PPIUCD or its benefits. The overall acceptance rate of PPIUCD is poor. This could be attributed to the fact that many women were unaware and had to be informed about the benefits of PPIUCD only when they were admitted for delivery.

Keywords: PPIUCD, Multigravida, Contraceptive, Copper T.

INTRODUCTION

India is world's second most populated country with 1.3billion people. It contributes 17.5% of world's population by adding 2.5 million births every year. India adds up to 10,00,000 people to its population every 20 days. In India, the 2005–2006 National Family Health Survey (NFHS) reported that 61% of births were spaced less than three years1 and that 22% of married women had an unmet need for family planning. A subsequent stratified analysis suggested that 65% of women in the first year postpartum had an unmet need for family planning.

IUCDs are used by only two percent of current users of contraception in India[1]. Intrauterine contraceptive device is the world's most widely used method of reversible birth control,[2] studies shows that spacing less than two years of child birth can lead to obstetric complications and maternal

mortality, hence the need for contraception with no systemic complications in the mother and new born breast fed baby.

This study helps to compare the uses and complications associated with intra caesarean insertion and interval insertion of copper T. About 1 out of 5 women in reproductive age all over the world use IUCD, while in India it corresponds to only about 3 in 100 women. The intrauterine device is highly effective, safe, rapidly reversible, long acting, coital independent method of contraception with relatively few side effects.

The post placental IUCD insertion is particularly suitable for our country where even trained paramedical personnel can insert the Cu T and delivery is the only time these patients come in contact with the hospital. Percentage of institutional deliveries in India is 41%,[3]As most deliveries are institutional, PPIUCD has the added advantage

It is also cost effective as it helps to avoid the outpatient service charges and avoid transportation expenses. The additional follow up visit is made to continue with the new born care thereby minimising the costs incurred. One of the main reasons that IUCD is under utilised in India is that many health service providers and potential clients lack accurate, up to date information about it. The high discontinuation rate is due to problems related to providers knowledge and skills leading to improper selection of clients, not following recommended steps of insertion, poor counselling and lack of follow up, resulting in poor quality of services. Intrauterine devices (IUD) are among the most ef fective forms of contraception, offering greater than 99% efficacy per year of use and are completely reversible. Post placental intrauterine device (IUD) insertion is a safe, convenient, and effective option for postpartum contraception.

Post placental refers to insertion within 10-15minutes of placental delivery, after vaginal or caesarean delivery. Postpartum IUCD is, IUCD inserted within 48hrs of delivery. Interval IUCD is insertion of IUCD after 6weeks postpartum.

Aim

A comparative study on safety and efficacy and complications of intra caesarean insertion of IUCD and post caesarean insertion of IUCD

Objectives

1. To determine acceptability of intra caesarean insertion of IUCD among women undergoing caesarean section
2. To determine adverse events, expulsion rates and complications of intra caesarean placement of IUCD.
3. To compare the safety, efficacy and complications of intra caesarean insertion of IUCD and insertion of IUCD in previous caesarean section cases after 6weeks
4. To determine the proportion and cause of discontinuation of IUCD.

MATERIAL AND METHODS

Study Period

One year from August 2020 – July 2021

Study Population

1. All patients delivered at, Niloufer Hospital, Osmania Medical College hospital during the study period, fulfilling the inclusion criteria and willing to participate in the study.
2. Mode of delivery is Caesarean section.

Inclusion Criteria

- Women who were booked at Niloufer Hospital, Osmania Medical college having emergency or elective caesarean section.
- All pregnant and parturient women willing to participate in study
- 18-45yrs old mothers
- Mothers delivering at 36-40 weeks of gestation Singleton or multiple pregnancy
- Multiparous women not willing for permanent sterilisation.

Exclusion Criteria

- Patients not willing for IUCD insert
- Cases of antepartum haemorrhage
- History of rupture of membranes >12hrs History of fever in the last trimester Known case of uterine anomalies
- Having active STD or lower genital tract infections
- Cases of Anemia
- Postpartum haemorrhage

Client Assessment

The first assessment is usually done in the antenatal clinic regarding the patient's medical history and eligibility for cu T insertion.

Technique of Insertion: Interval Insertion of IUCD

1. After visualising the cervix with speculum, the vaginal vault and cervix are cleansed with bactericidal solution like povidone iodine.
2. The length of the uterine cavity should be assessed by uterine sound.The uterine sound has a blunt apex which prevents perforation.The depth of the uterine cavity must be atleast 6 cms from the external os. When the uterus is small, it cannot withhold intra uterine devices.
3. A tenaculum is mandatory for catching the lip of the cer-vix in order to prevent perforation.The angle between the cervical canal and the uterine cavity should be straightened by gently pulling downward the cervix with the help of tenaculum. After-which the intra uterine device which is load- ed into the inserter with no touch technique has to be intro- duced into the cervical canal.
4. **With-Drawn Technique**: After introduction of Cu T 380 A, the outer sheath of the inserter has to be slightly withdrawn for a minimal distance in order to free the arms of T.which is then slightly pushed inwards in order to place the T within the fundus of the uterine cavity.The inserter is then taken aback and the thread of the

intra uterine device has to be cut approximately 2 cm from the external cervical os for self-check and easy removal.

Follow up

The acceptors of intrauterine device were to be followed up routinely at six weeks on outpatient basis.The recipients are al- so instructed about the possibility of expulsion in immediate postpartum period, side effects and advised to report to the hospital if they experience abdominal pain, bleeding, foul smelling vaginal discharge and they can't feel the threads. A selected questionnaire was given and the patients discomfort andany complications have to be enquired. Position of IUCD have to be verified by per speculum and vaginal examination. If the threads are not visible, a check pelvic ultrasound or radiography of pelvis have to be done.

Unique to PPIUCD

It is difficult to visualise the thread of cu T in the immediate postpartum period as the uterine height is more than the length of the strings. When we follow up the patient after six weeks, as the uterus involutes the strings will be easily seen or felt through the vagina. Sometimes there may be time delay and in such circumstances it is necessary to reassure the patient and subsequent follow up.

RESULTS

Table1: Reasons for declining PPIUCD Among Parturient

Reason	Number	Percent
PreferToUseAnotherMethod	205	37.3
PartnerRefusal	124	22.5
Fear ofPainandHeavyBleeding	105	19.1
Not willing for Contraception Imme-diately	68	12.4
NoSpecificReason	40	7.3
FearsofCancer	3	0.5
Religious	5	0.9

Table 2: Reasons for acceptance of IUCD in Both Groups

Reason	Number	Percent
LongTerm	96	48
Safe	60	30
FewerClinicalVisits	8	4
Non Hormonal	2	1
Reversible	28	14
No Interference With Breast Feed-ing	6	3

Table 3: Distribution of Participants Based On Age (Both Groups)

Age	Number	Percent
18-24Years	110	55
25-29Years	72	36
30-34Years	14	7
35andAbove	4	2

Table 4: Distribution of Participants based on Parity

Parity	Intra caesarean insertion	Interval post caesarean insertion
1	59	65
2	36	29
3	5	6
4OrMore	0	0

Table 5: Complication Following Insertion Follow Up in Intra Cesarean IUCD Insertion = 76 (24 lost to follow up) & Interval IUCD Insertion = 65 (35 lost to follow up)

Problem	IntraCaesar-ean IUCD In-sertion	IntervalIUCDIn-sertion
None	17	26
Expulsion	3	3
Infection	0	0
AbdominalPain	3	3
Lost Strings	28	12
Menstrual/BleedingProblem	6	8
PregnancyWithPPIUCD	1	0
Difficulty in Removal / Re-movalinOT	5	4
Perforation /Myometrialim-paction	1	0
Noncompliance	12	9

Table 6: Continuation Rate with/Without Compli- Cations

Problem	Complications in Intra cesarean Insertion			Complications in Interval Insertion		
	Total Cas-es	Removal of CUT	Continua-tion of CUT	Total Cas-es	Removal of CUT	Continua-tion of CUT
Bleeding	6	1	5	8	1	7
Missing Strings	28	0	1	12	0	0
Abdominal Pain	3	0	3	3	0	3
Expulsion	3	3	0	3	3	0
No Complications	58	0	0	46	0	0
Difficulty in Removal/Removal in OT	5	5	0	4	4	0
IUCD with Pregnancy	1	0	1	0	0	.0

Table 7: Visibility of Strings

No. of Cases	Intra Caesarean	Post Caesarean
Threads Not Seen	28	12
Threads Seen	48	53

Table 8: Abdominal Pain Following Insertion

No. of Cases	Intra Caesarean	Post Caesarean
With Pain Abdomen	3	3
Without Pain Abdomen	73	62

DISCUSSION

In rural India, where the literacy rate is low and women are mostly de- pendent on her family for hospital visits, we would like top-quality care contraception that needs a lesser number of follow-up visits with higher efficacy and lesser complications.

The intrauterine contraceptive being long-acting reversible contraceptive fits well within these rural settings, but there are certain myths associated with IUCD in the society, which are required to be changed with motivation.

Counselling helps best while a woman is either pregnant or in early labour or when she goes through the milestones and minor ailments of pregnancy or early labour, which is also the simplest time to motivate her for the role of birth spacing, especially in case of caesarean delivery. However, because women especially in rural India, generally, if not well motivated won't come for follow-up and are reluctant to acquire medical aid.

In our study group, maximum women were within the age group of 18-24 years (55%) followed by 29-30 years, which is analogous to reviews per- formed by Bansal et al.4 and Haider et al.5, which found that acceptance of PPIUCD was best within the age bracket of 21-25 years (39.33% and 44%, respectively). Jairaj and Dayyala6 reported the mean age of acceptance as 23.70 years for post-partum copper T insertion, concluding that the acceptance of PPIUCD as contraception was more within the younger age group (≤30 years)

Among the PPIUCD acceptors, majority were primigravida. This shows that PPIUCD is commonly used among women as a short term contraceptive to space out their pregnancies. Multigravida preferring PPIUCD had history of use of PPIUCD in their previous pregnancy. The usage rate increased as these women were comfortable using PPIUCD earlier and PPIUCD removed the need for permanent sterilisation allowing the women to conceive at a later date if necessary.

Acceptance of IUCD usage is more common in intra caesarean insertion as compared to interval insertion after caesarean section. PPIUCD is relatively safe method of contraception as it has low rates of expulsion, minimal bleeding disturbances, negligible rates of infection.

Missing strings occurred in women of intra caesarean insertion of IUCD and interval insertion of IUCD. This was because coiling of the strings of IUCD occurring with involution of uterus. No significant change noted with difference in the mode of insertion.

The infection could be controlled and treated with antibiotics. Expulsion rate is low irrespective of timing of insertion. Also perception of pain is comparatively less in post placental insertion of IUCD compared to interval insertion. The antibiotic coverage in the immediate postoperative period can also reduce the incidence of infection. Also post placental insertion avoids the need for a visit to healthcare provider for insertion. This proves the advantage of PPIUCD over insertion months after childbirth.

While the OCPs are safe and efficacious, IUCD has the benefit of compliance and long term reversible contraception. Explaining the ad- vantage of IUCD over other methods of contraception can help in in-creasing the usage rate. As for bleeding disturbances, the mother needs to be reassured and allowed medical management rather than immediate removal of PPIUCD, because the risk of unwanted pregnancy and abortion increases the maternal risk.

Within our study, intra caesarean PPIUCD follow-up showed that 3% women had expulsion, and post caesarean insertion of IUCD also showed that 3% of women had expulsion, which was similar to a study conducted by Yadav et al,[7]who found the expulsion rate at four to six weeks interval as 3.12%. Rate of

expulsion in both the groups are statistically not significant. This explains that similar in both the groups.

A study conducted by Jairaj and Dayyala,[6] reported a complete expulsion rate of 6.8%. A study by Rani et al,[8] reported a really low expulsion rate of 2.74%.

In our study group, comparative study done among complications of both the groups. After statistical analysis the P value is 0.172 which is greater than 0.5 shows that the study is not significant. Which explains that the complications are common in both the groups but they vary a little. So we should motivate them for IUCD insertion irrespective of timing of delivery.

Jairaj and Dayyala6 reported the mean age of acceptance as 23.70 years for post-partum copper T insertion, concluding that the acceptance of PPIUCD as contraception was more within the younger age group (≤30 years).

Among the PPIUCD acceptors, majority were primigravida. This shows that PPIUCD is commonly used among women as a short term contraceptive to space out their pregnancies. Multigravida preferring PPIUCD had history of use of PPIUCD in their previous pregnancy. The usage rate increased as these women were comfortable using PPIUCD earlier and PPIUCD removed the need for permanent sterilisation allowing the women to conceive at a later date if necessary.

CONCLUSION

PPIUCD awareness among the study group was insufficient as many mothers were not aware of PPIUCD or its benefits. The overall acceptance rate of PPIUCD is poor. This could be attributed to the fact that many women were unaware and had to be informed about the benefits of PPIUCD only when they were admitted for delivery. Also the refusal of family members for PPIUCD usage adds to the burden of refusing contraception, hence counselling of family members al- so required from antenatal period onwards. The PPIUCD is particularly safe with few complications as demonstrated in the study. Successful family planning measures helps to avert 20-35% of maternal deaths and nearly 20% of neonatal deaths.

Strategies to improve current scenario

Government needs to develop to increase public awareness of the PPIUCD through different media sources. It is also important to arrange for training on PPIUCD in order to increase knowledge and skills among health care providers. This will also further promote PPIUCD use and aid in reduction of expulsion rates.

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