Efficacy of Postplacental Intrauterine Device Insertion

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Abstract

Objective: To determine efficacy of post-placental IUD insertion in terms.

Material and Methods: This descriptive case series was conducted from 01-02-2022 to 30-04-2022 at the Obstetrics and Gynaecology Unit 5 Lady Aitchison Hospital and unit 2 Services hospital Lahore.145 cases were studied by taking 95% confidence internal, 5% absolute precision and prevalence of administration issue as 10.5%. Non probabiling consecutive sampling teaching was employed.

Results: Out of 145 objects expulsion occurred in 10 cases (6.9%).

Conclusion: In conclusion, post placental insertion of the Tcu 380A IUD was feasible with less expulsion rate and not associated with significant side effects.

Keywords: contraception, IUCD, efficacy

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Introduction

Population of world is increasing at very rapid pace.[1] This poses a great burden on resources of developing countries and urgent need to meet sustainable development goals. Effective control of population growth by contraceptive use is need of hour.[2] Birth control, as it is now called Planned Parenthood is not a new idea.[3] One of oldest contraceptive recipe in writing is the one found in the Egyptian Ebers Papyrus which dates back to 1500BC. Historically the placement of IUD dates back to the early days of 1900.Initially these devices were made from steel material in the form of rings. During these days, it was considered illegal and involved personnel's were sentenced imprisonment. In 1960, modern IUD used now days was developed consisting of plastic T coil and loop shapes.4 In 1970, the addition of copper to IUD improved their efficacy due to local inflammatory effect. Later on these devices became available in smaller sizes so it was easy to place and these side effects were marginal. The rapid rise in use of IUD was suddenly declined in 1970 and 1980 due to its association with infection and septic miscarriage.[5] Now a days Cu-T380A and mirena are in wide use due to their safety and considerably low side effect profile. These devices are used by women worldwide on a large scale due to low failure rate and these are operator dependent. Pakistan since inception is experiencing a high rate of population growth, lowering of population growth rate is one of the primary objectives of 8th five years plan.[6] Discontinuation rates for Tcu380A are very lower than for other methods. Integrating family planning counselling into prenatal care may improve contraceptive usage in postpartum period. IUD immediately postpartum is safe. IUD can be inserted post placental, immediate postpartum and interval/extended postpartum (after 4 weeks post-delivery).[7] There were two expulsion (2/19, 10.5%) by 10 weeks postpartum after post placental intrauterine device insertion.[8] Rationale of my study is to find out the results of contraception by post placental IUD insertion, if found to be successful then should be encouraged in women because it is safe, effective, convenient and advantages include high motivation good compliance and low expulsion rate. This study is thus a step in the direction towards improving contraception post placental. My study will be very useful in reducing population load through induction of feasible contraceptive method and for future citation.[9]

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Materials and Methods

This descriptive case series was conducted from 01-02-2022 to 30-04-2022 at the Obstetrics and Gynaecology Unit 5 Lady Aitchison Hospital and unit 2 Services hospital Lahore. Sample size of 145 females was calculated by taking 95% confidence interval, 5% absolute precision and prevalence of administration issue as 10.5%. Non probability consecutive sampling technique was employed. 20-40 years age group female who were delivered by spontaneous vaginal delivery and who gave consent for post placental IUD placement in antenatal period were included in study whereas those having elective caesarean section, having uterine leiomyoma distorting their cavity, diagnosed cases of uterine and cervical malignancy, allergic to copper, PROM for more than 24 hours and PPH were excluded from study. After taking consent from hospital ethical review committee all women fulfilling the inclusion criteria were included in the study and informed consent was taken from the patient. At routine antenatal visits of women, they were counselled about advantages, disadvantages and contraindications of IUD, other available options for contraception were also discussed. Their choice for IUD was properly documented on antenatal cards and consent signed by patient and her husband. Exclusion criteria were strictly followed to limit the confounding variables. After delivery of placenta and membranes, Tcu380A was placed in uterine fundus by retracting posterior vaginal wall with Sims speculum and using sponge forceps for IUD insertion using aseptic technique and patients were followed for for expulsion by ultrasonography whether it is expelled or displaced when thread is not found in place or copper T is in the cervix. Follow up is ensured by taking telephone contact. Questionnaire designed for this purpose was filled. Data was analysed by using SPSS version 20.Mean and standard deviation was calculated for the quantitative variables like age and parity. Frequency and percentages were calculated for qualitative variables like rate of expulsion.

Results

Among 145 subjects, 103 ladies (71.0%) were between 20-30 years old while 42 ladies (29.0%) were between 31-40 years of age. Mean age was observed 28.12 ± 2.9 years (Table -1) Distribution of cases by parity shows,

Table 1: *Age Distribution.*

Age (Year)	Number	Percentage
20-30	103	71
31-40	42	29
Total	145	100
Mean ± SD	**28.12 ± 2.9**	

Table 2: *Distribution of cases by parity*

PARITY	NUMBER	PERCENTAGE1-3
1-3	64	44.1
4-6	81	55.9
Total	145	100.0
Mean ± SD		**4.1 ± 0.7**

Table 3: *Distribution of cases by expulsion*

Expulsion	Number	Percentage
Yes	10	06.9
No	135	93.1
Total	**145**	**100.1**

64 cases (44.1%) belong to Para 1-3 and 81 cases (55.9%) had parity 4-6. Mean parity was 4.1 ± 0.7(Table-2). Expulsion occurred in 10 cases (6.9%) (Table -3).

Discussion

To decrease maternal and perinatal mortalities it is necessary to reduce unplanned pregnancies by using effective contraceptives. There were different school of thoughts related to contraceptive usage. Some groups like anti-imperialists, nationalists and moralists opposed these birth spacing methods. If population is not controlled appropriately it becomes a trap which can be very dangerous to economy and it puts huge constrains on country healthcare resources. Even before history was written people tried for population adjustment by prolonging lactation, miscarriages, coitus interrupts and even killing infants and aged people.[10]

In history of Islam, many Muslim physicians further increased awareness about contraception and methods used by Muslim countries were more reasonable. Al-Razi introduced different types of suppositories for birth spacing. Most popular scientist Avicenna introduced concept of safe periods in eleventh century. In Egyptian times, some herbs were mixed to make contraceptives which were used vaginally. Greeks further improved these methods.[11]

Pakistan has high population growth rate since its independence. In our country men have dominant role in deciding about family size and to approve the use of contraceptive use for their partners.[12] While designing Pakistan population programmes importance of role of male partners in family planning not received proper

attention. There was downward shift in infertility in Pakistan from 6.3 in 1975 to 4.8 in 2000-2001.We are unable to implement effectively various socioeconomic and development plans due to high population growth rate. To meet this urgent need national family planning programme was established in start of sixties. After about 30 years of efforts of government and other non-government organisations (NGOs) contraception prevalence rate has increased to 37% and total fertility rate is 3.5. Pakistan has not achieved desired control over population growth compared to other countries of same socioeconomic status like Indonesia and Bangladesh.[13] Large number of people in our country live in villages and some couples want birth spacing but currently not practising any contraceptive method. This problem of unmet need can be solved if easy, free of cost availability of contraception is practised in rural and urban areas.[(14)] In late sixties, first survey was done about couple knowledge of birth spacing. This study showed that educated males, who have awareness about methods of family planning, had used more contraceptive options.[15]

In my study, 71% of patients who gave consent for IUD placement were between 20-30 years age group. This is the highest fertile period of their lives. In contrast, only 29% of patients used IUDs in 31-40 years age group. This trend can be explained by the fact that women who regularly attend hospitals for antenatal and family planning services are more likely to benefit because these contraceptive services are available free of cost and incentives are also given.[16]

Teenage marriages are common in developing countries. As a consequence of this most women complete their family by thirties, so further ten to fifteen years period demands appropriate contraceptive usage so that unwanted pregnancies and miscarriage rate can be decreased.[15]

The expulsion rate of post placental IUD insertion was 6.9% in current study in contrast to some studies where expulsion rate is high in patients with pelvic inflammatory disease, so IUD should not be used in patients suffering from infection and prior treatment with ceftriaxone, ofloxacin and flagyl for fourteen days is mandatory. In our culture, most women are not empowered.[17] Frequently husband and in-laws influence women choice of contraception and most do not favour sterilization thinking loss of fertility forever, therefore in these women placement of IUD immediately after delivery of placenta will be an attractive option to limit family size as this is easily reversible and there is no need to take daily medication. Illiteracy is a major obstacle in accepting birth spacing regimens. About 80% females of reproductive potential have not received basic education and they are dependent on their husband, friends and family to gain family planning information and these filtered ideas reach them representing dominant person perspective.[18]

When Copper T-380 A is compared with other intrauterine devices containing copper, it has been concluded that expulsion rates are less with CuT380A based on results of randomized controlled trials. Women need close follow up during first year because this is time when they are more susceptible to expulsion than after 10 years. IUD is mostly expelled during menstruation and it is accompanied by severe abdominal pain and vaginal bleeding.[(19)] If IUD is not completely expelled and at the time of examination it is noted to be present in cervix or vagina then a competent health care provider should pay attention to its immediate removal and woman involved in decision making to place another IUD if there is no evidence of infection.[12]

The issue of post placental IUD placement was studied by a systematic review. Despite the fact that there were many methodological flaws in studies and most were not up to mark but some conclusions were made on its basis. The rates of complications like infection and perforation were very low. When IUD was placed within ten minutes of placenta removal, its rate of expulsion were considerably less (36.9%) when there is delay of three days, it was associated with 69.8% expulsion risk. Hence time elapse before IUD insertion is major factor which determines its outcome further favouring and strengthening our study that is IUD placement immediately after placental delivery. We did not practise IUD insertion with sponge forceps but neither instrumental placement nor manual influence expulsion according to published data and strategies used to fix IUD by placing suture do not interfere with expulsion.

In my study it was noted that more educated females accepted TCu380A and this was observed in other studies also. Majority of the patients did not have any complications but abdominal pain and abnormal vaginal bleeding was experienced by many subjects. This observation is same as in other studies. Comparison was carried out between Mirena and Cu-T efficacy regarding contraception and a note was made of expulsion also, out of 11 participants who were offered CuT380A, expulsion occurred in 2. Another study described comparison of CuT380A and multiload copper375 placed after placental delivery in lower segment caesarean

section versus spontaneous vaginal delivery, expulsion occurred in 13% of females after vaginal delivery and 9% after caesarean section.

In this study 55.9% of the patients were Para 4 and above showing that it was most acceptable in high parity patients. The patients who requested IUD removal were younger than 20 years although contraceptive continuation with all methods is low in this age group.

Expulsion rate in our study is comparable to the results of other studies, reported evidence concludes that IUD expulsion rate is directly proportional to the number of years used. However, a study conducted on 427 females contradicts these results where no patient experienced expulsion after one year of insertion.[4,11,20]

The most common reason for discontinuation of use of Copper T is irregular vaginal bleeding and abdominal pain and multiple reviews have been conducted to address this issue. These reviews conclude that use of prostaglandin antagonists is helpful in reducing these symptoms. Different forms of Copper T have been introduced in research settings in which copper is distributed over lateral part of arms but this modification has no effect on overall outcome and also not influence risk of expulsion.

Conclusion

In conclusion, post placental insertion of the Tcu380A IUD was feasible with less expulsion rate and not associated with significant side effects.

Conflict of Interest *None*

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Authors Contribution

KN: Conceptualization of Project

AK: data collection

MA: Literature Search

BH: Statistical Analysis