

ORIGINAL ARTICLE

Immediate Post-Placental Insertion versus Interval Insertion of Intrauterine Devices for Contraception

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ABSTRACT:

Objective: To compare the frequency of uterine perforation, expulsion and pelvic infection rate of multiloop 375 in women of immediate post-placental (IPP) insertion versus interval insertion (I).

Materials and Methods: This Quasi-experimental study was carried out in the Department of Obstetrics & Gynecology, PNS SHIFA Hospital Karachi from 6th October 2008 to 5th October 2009. Fifty patients were selected by consecutive sampling technique for Group A (immediate post-placental insertion of multiloop 375). Fifty women for group B (interval insertion of multiloop 375) were selected by simple random sampling during their postnatal follow-up visit. Post-insertion follow up visit was done within six weeks. The results were analyzed by SPSS version 12 and expressed in frequencies and percentages. Pearson's Chi-square test was used as the test of significance.

Results: Mean age of women in group A was 29.02 ± 2.97 and in group B it was 31.24 ± 5.59 years. Multiparous women opted for IUD in both groups (48% in group A versus 44% in group B). IUD expulsion was 14% & 18% in group A & B respectively. While infection rate was 4% in group A and 2% in group B. Statistically non significant ($P > 0.05$) results were found. No case of uterine perforation was noted in both the groups.

Conclusion: Although both methods have almost same complication rate but for non compliant women IPP insertion of an IUD is a convenient selection for contraception.

Keywords: Intrauterine device (IUD), Immediate post-placental insertion (IPP), Interval insertion (I), IUD expulsion, Uterine perforation, Pelvic infection

INTRODUCTION:

The role of family planning in preventing maternal deaths and improving the quality of women's lives is one of the strategies of the safe motherhood initiative. Post-partum period is one of the critical times when both woman and newborn need a special and integrated package of health services as morbidity and mortality rates are quite high during this period and also the women are vulnerable to unintended pregnancy. Intrauterine contraceptive device (IUD) is a convenient, effective reversible contraceptive and relatively safe method with failure rates only slightly higher than those for oral contraceptives. Approximately 85 million women are using it all over the world. In Pakistan, especially in rural areas, it is acceptable to most of the couples due to its safety, cost effectiveness and convenience of use.¹

Pakistan has annual growth rate of 2.8% and family planning services reach just a quarter of people. According to reproductive health and family planning survey, 40% of Pakistani women use contraceptives and IUD is used by 3.5% of women after pills and Injectables.^{2,3} Intrauterine devices have been used for more than three decades as an effective method of reversible contraception. Newly introduced copper IUD's have pregnancy rate of 0.8% along with lower expulsion and perforation risk.⁴

In many family planning centers interval insertion of IUD is practiced after 6 weeks of delivery but lack of client information about IUD's, unskilled health care workers and poor sterilization techniques during its insertion have made it less successful method of contraception.⁵

Immediate post-placental insertion of intrauterine device is a method of early post-partum contraception. Insertion of an intrauterine device immediately after delivery is appealing for several reasons. The woman is known not to be pregnant and her motivation for contraception may be high. In contrast, women waiting for IUD may experience an unintended pregnancy or never return for the insertion.⁶

The concept of immediate post-placental insertion of IUD was introduced in Pakistan in 70's and few trials were conducted but were discontinued due to high expulsion rate. Recently it is not practiced for early post-partum contraception in population welfare programs. This technique is being widely used in Mexico and China and latest studies revealed that use of newly copper bearing IUD's i.e. multiloop 375, insertion within 10 minutes of delivery of placenta and by especially trained health personnel produced expected results.⁷ In this study future contraception was discussed with the couples as part of antenatal care and they were informed about immediate post-placental multiloop 375

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insertion as an option for contraception. Study was conducted by especially trained doctors to overcome the problem of expulsion which was cause of its failure in previous trials. The study compared the frequency of uterine perforation, expulsion and pelvic infection rate of multiload 375 in group A (inserted within 10 minutes of delivery of placenta) with group B (inserted 6 weeks after delivery).

MATERIALS AND METHODS:

This Quasi-experimental study was carried out in the Department of Obstetrics & Gynecology, PNS SHIFA Hospital Karachi from 6th October 2008 to 5th October 2009. One hundred women were included in the study. Fifty women were selected by consecutive sampling technique for Group A (immediate post-placental insertion of multiload 375) with inclusion criteria of women delivering vaginally or by caesarian section, counseled for IUD insertion in pre- natal period or in labor and willing to participate in the study. Women having anemia (hemoglobin <10 g/dl), PPH, pre-labor rupture of membranes >18 hours, obstructed labor or distorted uterine cavity were excluded.

For group B (interval insertion of multiload 375), fifty women were selected by simple random sampling during their postnatal follow-up visit in the outpatient Department. Women who were delivered vaginally were included in the study and willing for spacing by IUD insertion. Those who had distorted uterine cavity, pelvic infection or abnormal vaginal bleeding during puerperium were excluded.

In group A the multiload IUD was placed within 10 minutes of delivery of placenta in the uterine cavity (fundus) of women delivered vaginally. In case of caesarean section, IUD was placed through the lower segment incision and uterine incision was then closed routinely. In group B IUD was placed as an outdoor procedure 6 weeks after delivery. Post insertion follow up was done within six weeks for history of expulsion of IUD, abnormal vaginal bleeding or discharge and lower abdominal pain. Abdominal & pelvic examination was performed. Ultrasound was done for suspected misplaced IUD.

The results were recorded in proforma and analyzed using software SPSS version 12. Results of variables were expressed in frequencies and percentages. Pearson's Chi-square test was used as the test of significance. P value less than 0.05 was taken as significant.

RESULTS:

Mean age of women in group A was 29.02 ± 2.97 and in group B it was 31.24 ± 5.59 years. Women having 2-5 children opted for multiload IUD for contraception, 48% in group A and 44% in group B (Table 1). Comparison of uterine perforation, expulsion and pelvic infection rate in both the groups is mentioned (Table 2). IUD expulsion was 14% in group A and 18% in group B. However infection rate was 4% and 2% in group A and B respectively. No uterine perforation was noted in both the groups.

Table: 1
Parity distribution in both groups

Parity	Group A (n=50)		Group B (n=50)	
	Frequency	Percentage (%)	Frequency	Percentage (%)
P1	17	34.0	16	32.0
P2-5	24	48.0	22	44.0
P>5	9	18.0	12	24.0

Table: 2
Comparison of post-insertion complications at follow-up (n=100)

Post-insertion complications	Group A (n=50)		Group B (n=50)		Total (n=100)		Chi Square test	P- value
	No.	%	No.	%	No.	%		
IUD expulsion								
Uterine perforation	7	14.0	9	18.0	16	32.0	0.298	0.585
Pelvic infection	2	4.0	1	2.0	3	6.0	0.344	0.558

DISCUSSION:

Current contraceptive prevalence rate in Pakistani married women from 15-49 years of age is 27% in 2008. Immediate post-placental insertion of IUD has been recommended by the WHO, as one of the safe and effective methods of temporary contraception. It is increasingly included in many postpartum family planning programs.⁸ For the women, the only opportunity to receive information about contraceptives is during childbirth when they are in contact with medical personals. Hence, it is suggested that family planning should be integrated with maternal and child-care services in order to effectively promote the use of contraceptive devices in these women who otherwise would not seek the use of such a device.⁹

Regarding the complications of IUD, the present study showed expulsion rates in both groups (Group A- 14%, Group B- 18%) which are similar to other studies.^{10,11} However in comparison a study showed higher expulsion rate in the IPP group compared to delayed insertion of IUD.¹² While another study showed contrast results.¹³ Two studies conducted in India revealed lower expulsion rate of 10.8% and 3.6% in the immediate post-placental insertion of IUD as compared to present study.^{14,15} The expulsion rate for different IUCD's are different, we used Multiload that had lower expulsion rate as shown in a study.¹⁶ However the benefits of providing highly effective contraception immediately after delivery outweigh the disadvantage of expulsion, particularly in country like Pakistan where women have limited access to medical care.

Insertion complications of perforation and infection are not increased by IUD placement at any time during the post-partum period. In this study no case of uterine perforation was noted in both the groups and no statistically significant difference was found for pelvic infection in both the groups similar to a study conducted in Turkey in 2006 that also reported no statistically significant difference for uterine perforation and infection (p>.001) in immediate versus interval insertion of IUD.¹⁷ Our results are supported by another study.¹⁸ While pelvic infection was seen in 4% and 2% of women in group A and B respectively in contrast to a study by

shukla.¹⁴ Another study showed similar rate of infection with immediate insertion and interval insertion.¹⁹ Similar results were observed in a study regarding complications of menstrual complaints, excessive vaginal discharge and persistent pelvic pain.²⁰ Malpositioning of IUCD is associated with expulsions, menstrual irregularities and pain in a study, so ultrasonographic assessment of the placement of IUCD should be done immediately after insertion.²¹ However in contrast to present study another study did not find any instance of infection due to postpartum IUD insertion.²²

Our study proves that there is no significant complication rate in both groups, so women should be counseled for use of IUD immediately after delivery. Advantages of immediate post-partum insertion include high motivation, assurance that the woman is not pregnant, and convenience. The popularity of immediate post-partum IUD insertion in countries as diverse as China, Mexico, and Egypt supports the feasibility of this approach.¹³ Similarly another study of Pakistan stated that there were no serious complications associated with immediate postpartum IUCD insertion considering it safe and effective method.²³

There are reports of high incidence of infections in developing countries which may affect the risk of pelvic infection. Aseptic techniques and use of prophylactic antibiotics may be considered to reduce the incidence of postpartum sepsis in developing countries as compared to developed countries. A study conducted on postpartum insertion of IUCD at caesarean section supported the view that women, who are desirous of, and suitable for using this method, should be given the option of IUCD insertion at the same time.²⁴

This was the first study in this hospital so limitations were lack of skilled operator and poor patient compliance for follow up. As in this study we collected the data of follow-up whenever they visited within six weeks because of non-compliance for follow-up at one, four & six weeks. With the high level of acceptance despite low level of awareness, the government needs to develop strategies to increase public awareness of postpartum insertion through different media sources. It is important to arrange training on post partum insertion of IUCD in order to increase knowledge and skills among healthcare providers.²⁵ Special kit for the same should be provided to the health centers where deliveries are conducted. Early follow up may be important in identifying spontaneous IUD expulsions.

CONCLUSION:

Although both methods have almost same complication rate but for non compliant women immediate post-placental insertion of an intrauterine contraceptive device is a convenient selection for effective contraception during puerperium as resumption of ovulation is unpredictable after delivery.

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