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Enhancing contraceptive usage by Post placental Intrauterine contraceptive Device insertion with evaluation of safety, efficacy and expulsion

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Abstract: Objectives to assess the safety, incidence of perforation, pain , bleeding , foul smelling discharge and expulsion rate at 6 weeks follow up and willingness to continue when CuT380A inserted within 10min of placental expulsion both in vaginal and caesarean delivery

Methods: A prospective hospital based study of patients enrolling for vaginal delivery or caesarean delivery at Bapuji Hospital, woman and child hospital, chitageri General Hospital attached to JJM medical college Davangere during June 2013- June 2014 were conducted and were followed at 6 weeks postpartum for pain , bleeding , foul smelling discharge and expulsion rates.

Results: There were 91 patients for whom PPIUCD were inserted. 40 patients after normal vaginal delivery and 51 after caesarean section. When followed at 6 weeks postpartum 2% came with expulsion after normal vaginal delivery and no expulsion in patients after caesarean section, no missing strings after normal vaginal delivery but 52% patients came with missing strings after Caesarean delivery PPIUCD insertion, no infection rates, and 96% of the patients were willing to continue PPIUCD.

Conclusion: Insertion of intrauterine contraceptive device immediately after delivery is safe and effective method of temporary contraception.

Introduction:

Intrauterine contraceptive device is the most commonly used reversible method of contraception worldwide with about 127 million current users[1]. Insertion of an intrauterine contraceptive device immediately after delivery has been recommended by WHO as one of the safe and effective method of temporary contraception. In the immediate post delivery period the woman are highly motivated and need an effective method for contraception so that child can be brought up with a relaxed mind without the worry of unintended pregnancy. On the other hand, if they made to wait for 6 weeks for initiating an effective contraception, they may conceive accidentally or may not come for contraception. This approach is more applicable in our country where delivery may be the only time when a healthy woman comes in contact with health care personnel. And compared to sterilization less expensive and immediately reversible. Studies show that pregnancies taking place within 24 months of a previous birth have a higher risk of adverse outcomes like abortions, premature labor, post-partum hemorrhage, low birth weight babies, fetal loss and maternal death. In India, 65 per cent of women in the first year post-partum have an unmet need for family planning. Hence contraception needs to be practiced in this critical period[2].

Materials and Methods:

This prospective study was carried out in the department of Obstetrics and Gynecology, JJM Medical college Davangere from 2013 to 2014. Women delivering in the hospital fulfilling inclusion criteria were included in the study after obtaining informed consent. The study protocol was approved by the ethics committee.

The test of proportion (z test) was applied for statistical analysis.

Inclusion criteria: A 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.

Exclusion criteria: According to medical eligibility criteria for IUD by WHO, women having anemia

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(hemoglobin <10 g/dl), PPH, with pre-labor rupture of membranes >18 h or with obstructed labor were excluded. Women having distorted uterine cavity by fibroid or congenital malformation of uterus were also excluded.

The women included in the study underwent immediate post-partum insertion of CuT 380A after delivery of placenta. The IUD held by KELLYs forceps was introduced in the uterine cavity and placed in the uterine cavity (fundus) of women delivering vaginally. In the case of caesarean section, IUD was placed inside the fundus through the lower segment incision. Uterine incision was then closed routinely. Women were informed about the IUD insertion in the post-partum period. At the time of discharge from the hospital, women were advised to come for follow up after six wk as uterus takes around four wk to involute to pre-pregnant size. During follow up visits, women were asked especially for history of expulsion of IUD and excessive bleeding during post-partum period. As IUD insertion can cause pelvic inflammatory disease (PID), women were also asked about pain in abdomen or abnormal discharge *per vaginum* through vagina. Examination (per abdomen, per speculum & per vaginum) was done and the findings were recorded. In per speculum examination if IUD threads were long, they were cut 2 cm from external os. If threads of IUD were not seen and there was no history of expulsion of IUD, pelvic ultrasonography or X-ray pelvis was done to note for misplaced IUD.

Results:

A total of 868 women were included during the study period of one year. All of them underwent immediate post-partum IUD insertion (post placental insertion). All these women were asked to come for follow up after 6 wk post-partum period. However, 174 (20.04%) women did not come for follow up. The remaining 694 (79.9%) came for the first follow up visit after 6 wk . Of the 694 women, 382 had IUD insertion during cesarean section, while 312 women had IUD inserted vaginally within 10 min of delivery of placenta.

The women were between 22-30 yr of age, 333(48%)women were primiparous and 361(52.01%) were multiparous.

10 women complained of pain in lower abdomen and abnormal discharge through vagina and had sign of PID on examination. However, 180 women complained of heavy bleeding during menstruation. They were given mefanamic acid (250 mg TDS) during this period and were informed about the fact that bleeding during initial two or three menstrual cycle can be heavy due to IUD. But 30 women were not willing to continue. Therefore, IUDs were removed in them. The remaining 150 women responded to the treatment and continued with IUD as a contraceptive method. IUD was confirmed to be in place in 300 women in first follow up visit. However, IUD threads were not seen in 198 (52.2%) women especially in those where PPIUCD was inserted after caesarean delivery. Pelvic ultrasonography was done to confirm in situ CUT 380A. These women were informed about IUD being intact .Missing strings were found in 8%of cases. After X-ray and lower abdomen pelvic USG, IUD expulsion was confirmed in these women. The cumulative expulsion rate at the end of 6 months was 8.84 per cent.

DISCUSSION

In the present study, IUD was inserted post-placentally in women delivering by caesarean section or vaginally (within 10 min of delivery of placenta). In all studied women, 81 had expulsion of IUD and the cumulative expulsion rate at the end of 6 months was 8.84 per cent. Four multisite studies in UN-POPIN report found that after six months, the cumulative expulsion rate was 9 per cent for immediate post-placental insertion compared with 37 per cent for insertions done between 24 to 48 h after delivery. A study conducted in India on 115 women undergoing IUD insertion within first 10 days post-partum reported high rate of expulsion; 67 per cent of cases retained IUD, 4.3 per cent of cases had IUD slid in cervical canal and 6.1 per cent women had complete expulsion of IUD. The author concluded positively on post-partum insertion of IUD. Another Indian study conducted on 168 women reported 16.4 per cent as IUD expulsion rate in women undergoing post-puerperal IUD insertion. As the insertion was done in post-puerperal period, the expulsion rate was higher in this study as compared to the present study. Another study by Celen *et al* in 2003 had 11.3 per cent cumulative expulsion rate for CuT 300B.

In the present study, there were 10 cases of PID. A study conducted in 13 countries studied infection (PID) due to IUD. They have reported similar rate of infection with immediate insertion and interval insertion. Another trial did not find any instance of infection due to post-partum IUD insertion.

The literature mentions menorrhagia due to IUD. In the present study, 25.9 per cent had menorrhagia. Of these, IUD had to be removed as menorrhagia did not respond to mefenamic acid in 30 women. Welkovic *et al* studied post-partum bleeding and infection after post-placental IUD insertion, and

found no difference in the incidence of excessive bleeding

There were no cases of perforation in the present study. Global health technical briefs on immediate post-partum insertion safety and efficacy said that there are a few reports addressing the relative safety of immediate post-partum insertion. A multisite trial found no instances of perforation or infection due to post-partum IUD. As the present study had small number of patients; it does not accurately reflect the incidence of the rare event of perforation or misplaced IUD.

CONCLUSION

Immediate post-partum insertion of IUDs appeared safe and effective, though direct comparisons with other insertion times were limited. Expulsion rates appear to be higher than with interval insertion. Advantages of immediate post-partum insertion include high motivation, assurance that the woman is not pregnant, and convenience. Early follow up may be important in identifying spontaneous IUD expulsions.

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TABLE 1: PARITY

PARITY	PRIMIGRAVIDA	MULTIGRAVIDA
NO OF PATIENTS	333	361

TABLE 2: TYPE OF INSERTION

TYPE OF INSERTION	POSTPLACENTAL	INTRACAESAREAN
	312	382

TABLE 3: COMPLICATIONS FOLLOWING PPIUCD

COMPLICATION	PAIN ABDOMEN	SIGNS OF PID	MENSTRUAL DISTURBANCES	MISSING STRINGS	EXPULSION
NO OF PATIENTS	10	10	180	198	81
WILLING TO CONTINUE			150		
NOT WILLING TO CONTINUE			30		

TABLE 4: FOLLOW UP AFTER PPIUCD INSERTION

TO	TALNO AT 6 WKS FOLLOW UP	NO OF PATIENTS WHO DIDN'T COME FOLLOW UP
868	174	174

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