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IMMEDIATE POSTPARTUM INSERTION OF AN INTRAUTERINE CONTRACEPTIVE DEVICE DURING CESAREAN SECTION

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ABSTRACT

An intrauterine contraceptive device (iucd) is a widely acceptable reversible method of contraception for spacing of births. We determined the efficacy and safety of immediate postpartum iucd insertion during cesarean section. One hundred twenty two women with term pregnancies delivering by cesarean section between January 2012 to June 2013 were included in the study. A copper iucd (cu T380A) was inserted after removing the placenta. The participants were examined before hospital discharge and at 6 weeks, 6 months and 12 months postpartum. None of the patients were lost to follow-up. There was one case of an unplanned pregnancy (0.4%). There were no serious complications associated with immediate iucd insertion during cesarean section. The cumulative rates of expulsion, removal for bleeding/pain and other medical reasons were 17.6, 8.2 and 2.4 per 100 women per year, respectively. The continuation rates were 81.6% and 62% at 6 and 12 months, respectively. Immediate postpartum iucd insertion during cesarean section provides adequate protection against pregnancy.

Keywords: *Intrauterine Contraceptive Devices, Cesarean Section, Immediate Postpartum Insertion*

INTRODUCTION

An intrauterine contraceptive device (IUCD) is the most widely used reversible form of contraception, with 100 million estimated users worldwide (World Health Organization, 1997). The effectiveness of copper IUCDs, especially the TCu 380A, has been shown to be comparable to tubal sterilization over the long term, with the extra advantage of being easily reversible (United Nations Development Programme, 1997).

The main disadvantage of IUCD contraception is the rate of expulsion and side effects, such as pain and bleeding, which may necessitate its early removal.

In the case of cesarean section, immediate postpartum IUCD insertion provides a good opportunity to achieve long-term contraception with minimal discomfort to the patient. There is no risk of increase infection or other complications related to this method of IUCD insertion (Kappa and Curtis 2009).

The objective of this study was to determine the efficacy and safety of immediate TCu 380A IUCD insertion during cesarean section after removal of the placenta. The primary outcome measures were the 12-month cumulative rates of pregnancy, IUCD expulsion, medically related IUCD removal and complications.

MATERIALS AND METHODS

This study was conducted at Ashwini Nursing Home and Lokmanya Hospitals Pune between January 2012 to June 2013. Pregnant women scheduled for cesarean section were recruited for IUCD insertion immediately following removal of the placenta.

The exclusion criteria were as follows: cervical dilatation 6 cm on admission, hemorrhagic disorder, history of fever or clinical symptoms of infection, history of pelvic inflammatory disease or history of ectopic pregnancy.

Informed consent was obtained from all participants in the study. A copper IUCD (model TCu 380A) was placed in the fundus of the uterus after removing the placenta. At 6 weeks, patients were called in for a control visit, and strings were trimmed to extend just beyond the external cervical os

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Intrauterine device recipients were examined before hospital discharge, and follow-up visits were scheduled for 6 weeks, 6 months and 12 months. At each visit, the subjects were interviewed by staff. Physical and pelvic examinations were performed to verify the presence of the IUCD and to check for signs of infection and excessive bleeding. Intrauterine device expulsions were verified clinically and by ultrasound. Subjects were directed to return at any time if they experienced pelvic pain, fever, excessive bleeding or an unusual vaginal discharge.

The IUCD was removed in case of bleeding/pain, expulsion or pregnancy or upon the subject's request. Cumulative rates were calculated using life table analysis. The primary outcome measures were the 12-month cumulative rates of pregnancy, expulsions, medically related removals and complications.

RESULTS AND DISCUSSION

Results

One hundred twenty two pregnant women scheduled for cesarean delivery (age range, 18-35 years; median age, 26 years) were included in the study. The most common indications for cesarean section were a previous cesarean section (43%) and breech presentation (17%). Of the subjects, 73% were multifarious, 67% had used an IUD before and 61% wanted to have more children.

Of the 122 subjects, 68% had received prenatal care, and 64% had received family planning counseling. The remainder of the patients received information about IUCD use at the time of hospitalization, prior to cesarean delivery.

None of the patients were lost to follow-up during the study. There were no serious complications associated with immediate postpartum IUCD insertion. The clinical outcomes of the cesarean section patients receiving an IUCD are presented in Table 1. There was only one case of an unplanned pregnancy (0.4 per 100 women). Intrauterine device expulsion occurred in 26 subjects, with the cumulative expulsion rate of 17.6 per 100 women at the end of 12 months. Of the 26 subjects, 10 had complete expulsion, while 16 had partial expulsion. In addition to spontaneous expulsions, the IUCD was removed for bleeding/ pain (8.2%) or other medical reasons (2.4%). Also, 6.9% of the subjects discontinued IUCD use for planned pregnancy, and 2.4% discontinued for other personal reasons. The cumulative continuation rate was 81.6% and 62% at 6 and 12 months, respectively.

Table 1: Clinical outcome of immediate Postpartum IUCD insertion after cesarean delivery (n=122)

S no	Criteria	2 Days	6 weeks	6 months	12 months
1	Removal for Bleeding/pain	0	0.8	4.1	8.2
	Other Medical reasons	0	0.4	1.2	2.4
	Planned Pregnancy	0	0	1.2	6.9
	Personal Reasons	0	0	1.2	2.4
2	Unplanned Pregnancy	0	0	0	0.4
3	Expulsion Rate	1.2	5.3	10.6	17.6
4	Continuation Rate	98.8	93.1	81.6	62.0

Values are gross cumulative event rates per 100 users upto 12 months.

Discussion

Intrauterine device insertion after delivery is convenient for many women since the motivation is high for contraception and it does not interfere with breastfeeding in the early postpartum period. We investigated the 12-month outcomes in women with term pregnancies who underwent cesarean sections and had TCu 380A IUCDs inserted following removal of the placenta (Bahamondes *et al.*, 1999; Farr *et al.*, 1996; Reinprayoon *et al.*, 1998). We found the rate of unplanned pregnancies to be very low, occurring in only one of 122 women in whom TCu 380A IUCDs were inserted.

We did not encounter any serious complications. There were no cases of endometritis or uterine perforations. Intrauterine device insertion during cesarean section is a safe procedure. In studies

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comparing women who were inserted with an IUCD during cesarean section and women who refused IUD insertion during cesarean section, no differences were found in the rates of infection, postoperative pain, hospital stay and volume or duration of bleeding (Alvarez and Borbolla, 1994).

Expulsion of an IUCD is an important factor affecting its safety and efficacy. Partially expelled IUDs should be removed promptly because their contraceptive efficacy is uncertain and may rarely lead to complications. In the present study, we found the 6- and 12-month cumulative rates of expulsion to be 10.6 and 17.6 per 100 women respectively, with about one third of the subjects having complete expulsion (Celen and Moroy 2004).

The main side effects of IUCD usage are prolonged or excessive bleeding and abdominal pain during menstruation. In the present study, the rate of removal due to bleeding/pain was 8.2 per 100 women per year.

Overall, more than one fourth of the subjects (28.2%) had to discontinue IUCD use within the first year due to expulsion or other medical reasons.

In conclusion, immediate postpartum IUCD insertion during cesarean section provides adequate protection against pregnancy, with no increased risk of infections. However, Contrary to some other reports stating better tolerance of immediate IUCD insertion after cesarean section, we found one in every four women discontinuing IUCD use due to expulsion or other medical reasons. Immediate postpartum IUCD insertion during cesarean deliveries may still be an option in selected cases, but considering the rate of expelled IUCDs, it would be important to perform routine checkups on the correct positioning of the IUCD within the first year and encourage annual checkup visits in the following years.

Randomized clinical trials are needed to determine if interval IUCD insertion has any clear benefits over immediate insertion during cesarean delivery.

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