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Acceptability, Safety and Uptake of Transcesarean Intrauterine Contraceptive Device

Nisha Bhatia[1], Krishna Kumari Meka[2]

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[1]Associate Professor, [2]Professor, Department of Obstetrics and Gynaecology, Apollo Institute of Medical Sciences and Research, Hyderabad, Telangana 500090, India.

Corresponding Author: Nisha Bhatia, Associate Professor, Department of Obstetrics and Gynaecology, Apollo Institute of Medical Sciences and Research, Hyderabad, Telangana 500090, India.

E-mail: nish_178@yahoo.co.in

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Abstract

Background: The contraceptive methods that are offered to a woman with previous cesarean section are either tubectomy at the time of aesarean section or contraception at a later postnatal visit. Transcesarean Intrauterine contraceptive device placement gives an opportunity to provide a long-term, reversible and cheap contraception with minimal side effects. It has no interference with lactation and also helps in spacing.

Aims and Objectives: The primary objective was to study about the acceptability of IUCD as a choice for Transcesarean contraception among women undergoing repeat cesarean section and the influence of sociodemographic factors on their choice; the other objectives were to calculate the uptake of transcesarean IUCD in these patients and to evaluate its safety

Method: Prospective cohort study conducted in Department of Obstetrics and Gynecology at Apollo institute of medical sciences and research, Hyderabad, India with 200 women with previous one cesarean section. They were counselled regarding various methods of contraception and the option of Transcesarean IUCD insertion also was discussed. Their choices along with factors such as age, education, religion, previous child age, reasons for nonacceptance were noted in the form of a questionnaire. After placement of IUCD, they were observed for any side effects during immediate postoperative period, at the time of discharge and at 6 weeks postpartum.

Results: The acceptability of Transcesarean IUCD is 34% while Tubectomy is 29%. IUCD is preferred over Tubectomy among women in age group of 20–25, educated couples who have previous female child and are planning spacing. 37.8% do not prefer IUCD due to its side effects. Expulsion rate of Transcesarean IUCD is 2.9% at one week and 10% at 6 weeks after insertion.

Conclusion: Acceptability of Transcesarean IUCD is low due to various social factors and also due to fear of side effects. These barriers can be overcome by regular antenatal counseling so that its uptake increases and unmet needs of family planning can be met.

Keywords: Transcesarean; Cesarean; IUCD; Tubectomy; Sociodemographic factors; Safety.

Introduction

Cesarean section rates are on a rise in recent times. After cesarean section, there is a need for an effective contraception that is both long-term and also that does not interfere with lactation.[1] The choice of contraception during a cesarean section is limited to either Tubectomy or Postplacental Intra uterine contraceptive device (IUCD) placement. Intrauterine contraceptive device provides long term contraception without hormonal side effects and without any interference with lactation. Women undergoing cesarean section are good candidates for using IUCD for contraception since it offers the obstetrician an opportunity to insert the IUCD into

the uterus under vision, thus obviating the fear of perforating the uterus during the procedure. A number of women fail to return for availing contraceptive services, once they leave hospital. Transcesarean IUCD insertion also offers women a chance to avail this method of contraception at the same time as they have cesarean section.

Despite these advantages, the acceptability of IUCD in India as per NFHS 4 Survey is as low as 1.5%.[2] The reasons cited are fear of side effects, lack of awareness and low accessibility.

Aims and Objectives

The primary objective was to study the acceptability of postplacental placement of IUCD as a choice for transcesarean contraception among women undergoing repeat cesarean section and the influence of sociodemographic factors on their choice. Secondary objectives were to calculate the uptake of transcesarean IUCD in patient with previous cesarean pregnancy and to evaluate its safety, any adverse event such as excessive bleeding or infection during immediate postoperative period, at the time of discharge and at 6 weeks postpartum.

Materials and Methods

This was a Prospective Cohort study conducted in the Department of Obstetrics and Gynecology, Apollo Institute of Medical Sciences and Research General Hospital, Hyderabad for a period of 3 years. 200 antenatal women (parity 1 or above-with one live child) undergoing repeat cesarean were enrolled in the study. After an informed consent women from 18 to 49 years with parity 1 or above (with one live child), eligible for IUCD insertion according to Medical eligibility criteria and scheduled for repeat cesarean section were included in the study. Women were excluded if they had any contraindication to IUCD insertion as per Medical eligibility criteria. After enrollment, subjects were excluded if they had Intrapartum fever more than 38 degrees, Postpartum hemorrhage (greater than 1000 ml for cesarean deliveries), rupture of membranes greater than 24 hours prior to delivery, retained placenta requiring manual removal, anatomic abnormality that will distort cavity or any fibroids. The eligible subjects were counselled regarding various contraceptive methods and the concept of long-acting reversible contraceptive in the form of intrauterine contraceptive device was discussed and the advantages of Transcesarean IUCD insertion was introduced to them and their spouse. Their choice of contraception was noted and their reasons for not choosing Transcesarean IUCD were also noted. The patients who opted for intrapartum insertion of IUCD, consent was taken prior to surgery. After successful insertion they were followed throughout the immediate postpartum period till they are discharged and again followed at 6 weeks postpartum for any side effects such as bleeding or infection.

Results

The number of women recruited in our study was 200 women with one previous cesarean section. After counseling regarding various options of contraception during cesarean section (IUCD—post placental placement; Tubectomy), 34% chose transcesarean IUCD, 29% chose tubectomy while 37% did not choose any form of contraception.

Sociodemographic profile of these patients was studied and association of various factors (such

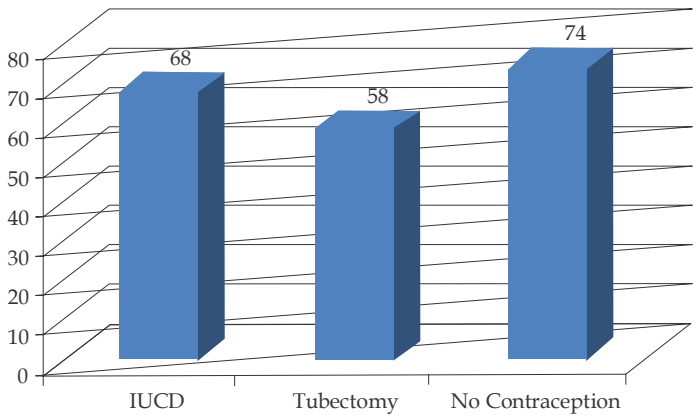

Fig. 1: Acceptability of transcesarean contraception in patients undergoing repeat cesarean section.

as age of the patient, education and employment status of the couple, age and sex of the previous child) with their choice of contraception was studied (Fig. 1).

Age of the mother: It was observed that 51.1% of the studied subjects belonged to the age group of 21–25 years. In this group almost half of them preferred Transcesarean IUCD (46.6%) over Tubectomy (24.2%) as their choice of contraception. In the age group >25, Tubectomy was preferred over Transcesarean IUCD (36.8% vs. 19.7%) (*p*-value: 0.003) (Table 1).

Table 1: Age of mother and choice of contraception

Age of the mother (years)	Transcesarean IUCD	Tubectomy	No contraception
<20	2	0	5
21–25	48	25	30
26–30	15	28	33
>30	3	5	6

Education Status and Occupation of the Couple

In our study, 46 women were graduates and above, 95 had studied higher secondary and 39 up to 10th standard. Around 20 subjects were illiterate, 55% of uneducated couples did not prefer any form of contraception. Acceptability of Transcesarean IUCD in women who were graduates was 41.3% when compared to illiterates where acceptability was 35%. Preference for Transcesarean IUCD was higher than Tubectomy in women who were educated when compared to the less educated women (60.3% vs. 25%). In couples who were graduates and above, acceptability of Transcesarean IUCD was significantly higher when compared to Tubectomy (41.3% vs. 36.9% Wife is a graduate; 46.3% vs. 34% Husband is a graduate).

In our study 162 women were housewives out of whom 40.7% didn't prefer any contraception during cesarean; if they preferred-IUCD preceded over Tubectomy (33.9% vs. 25.3%). Working women preferred Tubectomy (44.7%) over IUCD (34.2%) as Transcesarean contraception (Table 2).

Table 2: Sociodemographic factors and choice of contraception

Subjects	Transcesarean IUCD	Tubectomy	No contraception
Patient's education (*p*-value: 0.02)			
Illiterate	7	2	11
Up to 10th	10	8	21
Intermediate	32	31	32
Graduate	19	17	10
Husband's education (*p*-value: 0.011)			
Illiterate	4	2	13
Up to 10th	24	16	21
Intermediate	21	26	32
Graduate	19	14	8
Patient's occupation (*p*-value: 0.70)			
Housewife	55	41	66
Working	13	17	8
Husband's occupation (*p*-value: 0.02)			
Private job	46	27	29
Government job	10	16	16
Daily wager	7	12	20
Unemployed	5	3	9
Religion (*p*-value: 0.02)			
Hindus	50	48	46
Muslims	15	7	27
Others	3	3	1

Acceptability also depended on the employment status of the husband as patients hose husband was working in private sector job preferred IUCD over Tubectomy during cesarean section (45% vs. 26.4%) while those having government jobs preferred Tubectomy (38% vs. 23%) (Table 2).

Religion

Religion also showed a statistically significant influence on the choice of contraception. (*p*-value 0.012). Among the Hindu women, almost equal preference to both Tubectomy and IUCD was observed (33.3% vs. 34.7%). Among Muslim women, 55.5% did not prefer any form of contraception during repeat cesarean section. Among the Muslim women who preferred contraception, acceptability of IUCD was almost twice that of Tubectomy (30.6% vs. 14.2%).

Previous Child

The association of age and sex of previous child with their transcesarean contraceptive choice was studied. 53.5% of women conceived within 2 years of the birth of their first child in our study. Out of which 43.9% opted for Transcesarean IUCD and 45.7% did not prefer any contraception during second cesarean. The acceptability of tubectomy in this group was as low as 10.2% only. In women with previous child above 2 years of age acceptability of Transcesarean IUCD was 50.5% when compared to Tubectomy (22.5%) (*p*-value 0.05) (Fig. 2a, b).

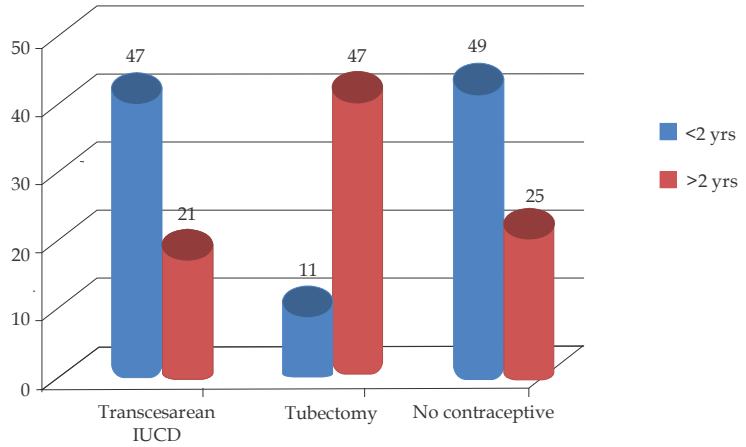

Fig. 2a: Age of previous child and choice of transcesarean contraception.

The number of couples with previous male child was 92 and the ones with female child was 108. The acceptability of intrauterine device in the couples with previous male child was 33% whereas in previous female child the acceptability was 32.4%. The acceptability of tubectomy was higher in couples with previous male child.

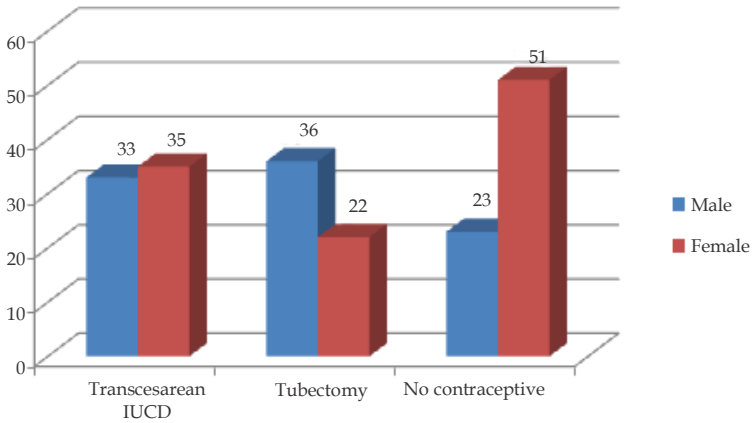

Fig. 2b: Sex of previous child and choice of transcesarean contraception.

Reasons for Low Acceptability of Transcesarean IUCD

One third of the subjects did not prefer IUCD due to fear of infection, 37.8% due to fear of side effects such as excessive bleeding and 28.7% due to non-acceptance by husband or other family members (Fig. 3).

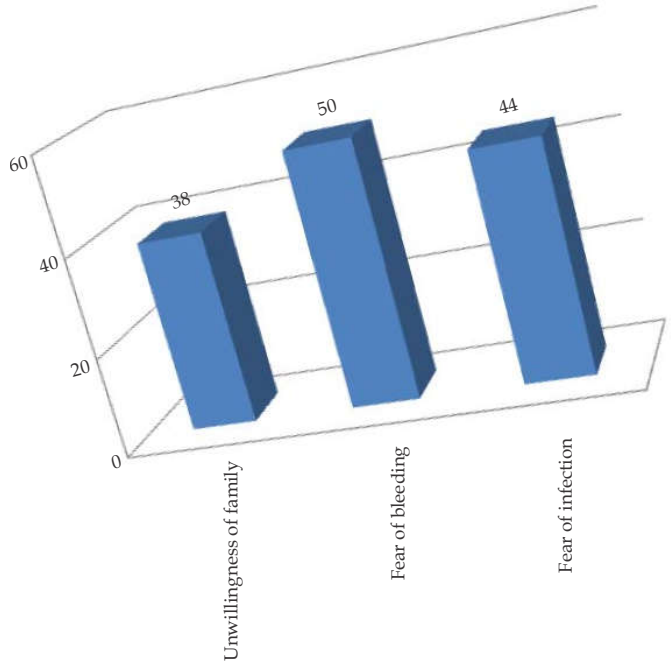

Fig. 3: Reasons for non-acceptability of transcesarean IUCD.

Uptake of Transcesarean IUCD

Out of the 68 women who were willing to take up IUCD, it could not be inserted in 6 women as they had few intraoperative complications, 4-postpartum hemorrhage and 2-uterine anomalies diagnosed intraoperatively (Fig. 4).

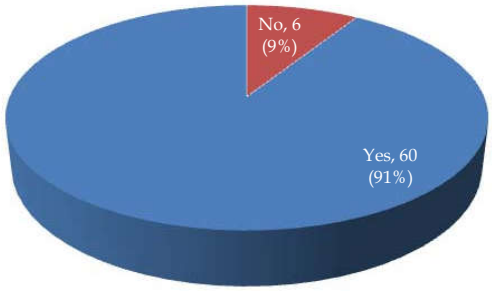

Fig. 4: Uptake of transcesarean IUCD.

Safety of Transcesarean IUCD

Sixty-two patients were followed for side effects in the immediate postoperative period, at the time of discharge (7 days post-surgery) and at 6 weeks postpartum visit. Increased pain score and excessive bleeding was reported in 5.8% and 7.3% of patients respectively which was not statistically significant. On the day of discharge, 13.2% complained of threads out of introitus and expulsion rate was as low as 2.9%. Forty-eight patients could be followed up at 6 weeks. Expulsion rate was 10% at 6 weeks post partum and threads outside introitus were seen in 13.3 % of patients during their postpartum visit at 6 weeks. No adverse events were reported in 83.8% of patients immediate postoperative period, 76.6% of patients on day of discharge and 77.5% of patients at 6 weeks postpartum (Fig. 5).

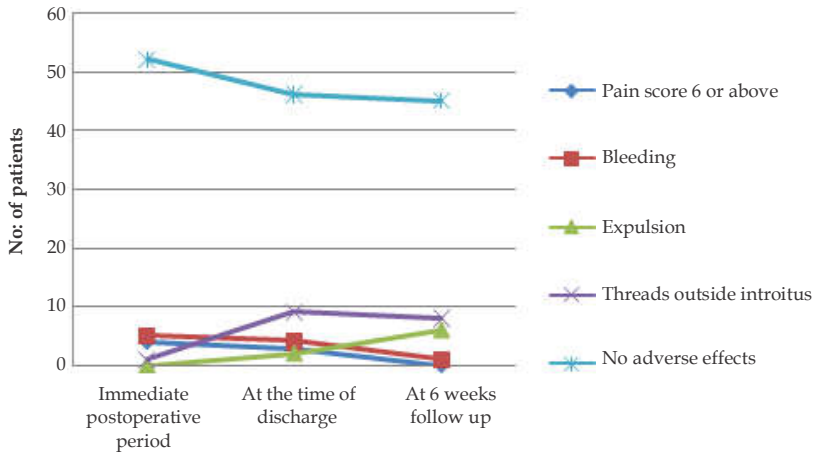

Fig. 5: Safety of transcesarean IUCD.

Discussion

Intrapartum period is the most appropriate time to initiate contraception since women are highly motivated and are accessing healthcare. Women who undergo a cesarean section have the options of either Tubectomy or Long-acting reversible contraception (Transcesarean IUCD placement).[1]

In the present study, the choice of transcesarean contraception of 200 women undergoing repeat cesarean was studied. In our study, one third preferred tubectomy and acceptance of Transcesarean IUCD was 34% while the remaining did not prefer any form of contraception. The acceptability of Transcesarean IUCD was low despite of antenatal counseling which was similar to study done by Kanhere AV et al.[3] in which acceptability was 36%.

Sociodemographic Factors

In our study most of the patients belonged to the age of 21–25 years (51.1%) which was similar to a study done by Doley R et al.[4] In present study population majority of the acceptors Transcesarean IUCD belonged to the age group 21–30 (75.9%). The maximum acceptance of IUCD was in the age group of 21 to 25 years (46.1%) which was comparable to a similar study conducted by Katheit et al.[5] which had maximum acceptance in the age group 21–30 (78.3%). This could be because intrauterine contraceptive device is a long-acting and temporary method which is ideal for women in younger age group who do not prefer permanent sterilization.

In our study Acceptability of Transcesarean IUCD was higher than Tubectomy in couples who were graduates and above. There was a statistically significant association between the education status of couples and acceptability of Transcesarean IUCD which was similar to the observation by Katheit et al.[5] where it was found that the acceptance was more among those who were literate (65%). Tubectomy was preferred over IUCD in our study among the working couples which was in contrast to a study done by Alukal et al.[6] where acceptance of postpartum IUCD was more among those who were employed 55.6%. In our study acceptability was also influenced by the employment status of the husband as patients whose partner was working in private sector preferred IUCD over Tubectomy during cesarean section (45% vs. 26.4%) while those having government jobs preferred Tubectomy (38% vs. 23%). The reason could be preference of a two-child norm by couples who are working in government sector and incentives as per national family welfare program.

In a study done by Kant et al.,[7] PPIUCD acceptance rate in Hindus was 38% while in Muslims it was 70.6%. In our study it was noticed that Hindu women had equal preference for both IUCD and Tubectomy while among the Muslim women, though overall acceptability of contraception was as low as 44.5%, among those who preferred contraception, acceptability of IUCD was almost twice that of Tubectomy. Hence proper counseling may make Muslim women too much acceptable to long-acting reversible contraceptives. This observation was similar to a study done by Kant et al.[7]

Age and sex of the previous child also had a statistically significant effect on the acceptability of contraception during cesarean section. In our study almost half of the women had conceived within 2 years of the birth of previous child indicating the

lower usage of contraceptives for spacing. In such couples transcesarean IUCD (43.9%) was preferred over tubectomy (10.2%) as it is reversible and long acting thereby obviating the need of permanent sterilization in family planning. This was similar to study by Sharma et al.[8] which revealed that there was higher acceptance rate among multipara (69.59%) and those who had a desire for future pregnancy after an interval of more than 2 years (75.64%). This observation is similar to findings reported by Deshpande et al.[9] but in contrary to study conducted by Mishra and by Gautam et al.[10,11]

Sex of the previous child also influenced the decision of acceptance of contraception. Women with previous male child had equal preference for both IUCD (33%) and Tubectomy (34%) during cesarean section as compared to women with previous female child where almost half of them did not prefer any form contraception during second cesarean section indicating the gender discrimination present in society till date. Among them who accepted contraception, acceptability of Transcesarean IUCD was slightly higher than Tubectomy (32.4% vs. 20.3%) which could be due the advantage of IUCD being a temporary reversible method.

The reasons for low acceptability of IUCD in a study by Alukal et al.[6] were preference for permanent sterilization, family pressures or fear of complications. Study by Sharma et al. found that reversibility (73.62%), safety and effectiveness (69.96%) and acceptance by partner/family member were common responses from majority of acceptors. Studies by Deshpande et al.[9] and Mishra[10] have similar findings. In our study the preference for tubectomy was 29% and the patients who did not prefer any form of contraception were 37%. Refusal from partner/family member for PPIUCD insertion was most common (72.75%) reason for non acceptance followed by fear of complications (69.96%) which was similar to the observations in studies by Sonali Deshpande et al., Mishra and Gautam et al.[9–11] This suggests the importance of couple counseling for contraception decision making to meet unmet need for contraception.

In our study, Transcesarean IUCD was well tolerated by majority of the patients without any adverse events. The most common side effect was thread outside the introitus (13.2% at 7 days and 13.3% at 6 weeks) followed by expulsion (2.9% after 7 days and 10% at 6 weeks respectively). No significant change in pain score or bleeding patterns was noticed. Similar observations were found by Mishra[10] and Maluchuru et al.[12] where the highest expulsion was in between 7 days and 4 weeks, which were 7.6% and 2.5% respectively. Hence, Transcesarean IUCD seems to be a safe effective and long-term contraceptive method having utility in spacing pregnancies and limiting family size.

Conclusion

Age, sociodemographic profile background, education status of the couple, partner's occupation and age and sex of last child positively influence the acceptability and uptake of transcesarean contraception. Preference for Tubectomy in patients with one previous cesarean is low hence Transcesarean IUCD an appropriate contraceptive choice to prevent unintended pregnancies and promote longer interpregnancy interval. Though transcesarean IUCD is a convenient, safe and an effective method of long-acting reversible contraception, its acceptability is low due to various social factors. These barriers can be identified during antenatal period and can be overcome by repeated counseling so that the unmet needs of family planning are met.

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