

Safety and Success of immediate post-placental intrauterine device insertion at the time of Cesarean Section

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Background: Evidence is building up in favour of insertion of an intrauterine device (IUD) in the immediate postpartum period i.e.: post-placental IUD (PPIUD) insertion with regard to its safety and effectiveness as a method of contraception. PPIUD insertion at the time of Cesarean section (CS) is also a safe and acceptable method. However there is not much research evidence to encourage service providers to adopt this practice. We carried out this study to determine safety and success rates of immediate post caesarean IUD insertion.

Materials And Methods: A cross sectional study was conducted on women who underwent PPIUD insertion following childbirth at the Teaching Hospital, Kandy from January 2013 to March 2013. Data were collected by an interviewer-administered questionnaire at postnatal wards as an exit interview. Repeat interviews were carried out at 6 weeks and 6 months since the date of PPIUD insertion. All women were assessed clinically and ultrasonically. Patient perceived morbidities following insertion of PPIUD and expulsion rates were assessed as outcome measures.

Result: At the end of 3 months, 121 mothers had undergone PPIUD following CS and 362 following vaginal Delivery (VD). Eight women (6.7%) complained of abdominal pain following PPIUD insertion in the CS group while the same for the VD group was 3(0.8%). Abnormal vaginal bleeding was the second commonest complaint with 5(6%) and 8(2.2%) in CS group and VD group respectively. At the end of the observational period of 6 months, Six (5%) IUDs had been expelled in the CS group, where one (4.5%) was in elective CS and five (5.5%) were in emergency CS. This difference was not significant ($p=0.5$). The expulsion rate in women in VD group was found to be 17.7% (16), which was significantly higher than the same reported from the CS group ($p<0.001$).

Conclusions: Post caesarean IUD insertion appears to be a safe and effective option at this short term analysis. This could be an effective method of family planning for women wishing for long acting reversible contraception. Considering the poor compliance to other family planning methods and the rate of CS at hospitals, application of this intervention seems feasible. Further studies need to be carried out to evaluate the outcomes at long term.

Key Words: Post-placental intra-uterine device, Postpartum, Cesarean Section, Sri Lanka

INTRODUCTION

Intra Uterine Device (IUD) insertion is a safe and reversible method of contraception which has a cumulative pregnancy rate of less than 1 in 1000 in the first year of use¹. Immediate post-placental IUD (PPIUD) insertion is defined as placement of the IUD within 10 minutes of delivery of the placenta². This method is an attractive option due to many reasons, such as women being more amenable to the procedure at the time of delivery because of increased motivation for contraception, minimal discomfort related to insertion, lack of interference with breast feeding^{1,2,3}, plus safety and efficacy of the procedure^{1,5}. PPIUD insertion therefore ensures that the women leave the hospital with a proper contraceptive method³. This can also have a positive impact on reducing maternal morbidity and mortality in countries where the implications of unwanted pregnancies, such as criminal abortions, are high¹. PPIUD insertion at the time of Cesarean Section (CS) is also a safe and an acceptable method^{1,4}. However, scientific evidence on safety and efficacy of this practice is scarce globally as well as locally. Despite the facts that, cervix is not fully dilated and fundal placement of IUD is easier and safer at the time of CS, PPIUD insertion at the time of CS is not performed commonly around the world. This could be due to many reasons, including lack of awareness among practitioners and lack of evidence to assess benefits. Applicability of evidence is higher when it is generated from local setting. Therefore we conducted a study to assess the safety and effectiveness of PPIUD insertion following CS and Vaginal Deliveries (VD) at a Teaching Hospital in Sri Lanka.

METHODS We conducted a cross sectional study with an analytical component at the Teaching Hospital, Kandy. Women who underwent PPIUD

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Competing interests: The authors report no conflict of interest



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insertion following VD and CS were considered as the study population. Women who had a diagnosis of a mental disorder were excluded. Study units were recruited to the study during the three months' period from 1st of January 2013 to 31st of March 2013 until the calculated sample size of 485 was achieved. All the study participants were invited for a follow up interview and examination at six weeks and six months after insertion of PPIUD. Initial data were collected by an interviewer-administered questionnaire by trained data collectors at postnatal wards. Women were re-assessed clinically and ultrasonically at 6 weeks and 6 months following insertion of the PPIUD. Expulsion of IUD was defined as ultrasonic confirmation of absence of the IUD within the uterine cavity with or without a history of expulsion from the woman. Associations with selected variables were assessed using the Chi Square test and a p value less than 0.05 was considered as significant.

RESULTS Mean age of the study population was 27.1 (SD=0.4). There were 261 (53.7%) primiparous women. Multigravid women with more than three deliveries were 26(5.5%) The study population was dichotomized into those who underwent PPIUD insertion following VD 364 (75.1%) and those who underwent the same following CS 121 (24.9%). Out of 121 CSs, 99 (81.8%) were emergency CSs. With regard to the morbidities, the commonest complaint in the CS group was abdominal pain (8; 6.6%), followed by abnormal vaginal bleeding (5; 4.1%). In the VD group, 3(0.8%) complained of abdominal pain and 7 (1.9%) complained of abnormal vaginal bleeding. There was no difference in morbidity rates between the two groups (p=0.2). Six (4.9%) IUDs

had been expelled before six months in the CS group. However, all six expulsions in the CS group were from women who did not have any complaints. These expulsions were recorded from both elective (1; 4.5%) and emergency (4; 5.5%) CSs and did not show any association with the type of CS (p=0.5). Among the women who experienced PPIUD insertion following VD, 64 (17.7%) IUDs had been expelled before 6 months in this group of women, which was significantly higher than the group of women who underwent PPIUD following CS (p<0.001).

DISCUSSION:

The expulsion rate in women after vaginal delivery was found to be 17.7%, which was significantly higher than that of post CS PPIUD insertions (5%) (p<0.001). There was no difference in the proportion of morbidities following insertion of PPIUD in the two groups as well. Therefore PPIUD insertion at the time of CS appears to be a safe and effective option for women opting for a long acting, reversible contraceptive method. Even though the failure rates are low, confirming the presence of IUD in the uterine cavity ultrasonically at the end of 6 months would improve patient acceptance of the method in the long term. This practice of contraception could be more useful in countries like Sri Lanka where unsafe criminal abortions are high⁹. This method ensures that the patient leaves the hospital with a long acting and user independent method of contraception. Considering the poor compliance to other family planning methods and the rate of CS at hospitals, application of this intervention seems feasible. Authors strongly recommend conduction of further studies to evaluate long-term outcomes to build up the evidence.

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