



Immediate Postpartum Intrauterine Device in HIV-Infected Women

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Abstract

Background: Immediate postpartum intrauterine device (PPIUD) is a good solution for reducing low contraceptive coverage in developing countries. However, its use in HIV-infected women is poorly documented. The objective of this study was to assess whether the risk of PPIUD complications was higher in HIV-infected women.

Methods: A retrospective cohort study compared 32 HIV-infected women to 64 HIV-negative women who had had a PPIUD at the sms medical college, jaipur between January 2020 and March 2021, with a match at the insertion time of the PPIUD. The complications considered were pelvic pain, metrorrhagia and genital infections. Chi-squared test and relative risk were used to investigate the association between HIV infection and PPIUD complications.

Results: HIV-infected patients had an average age of 33.1 years, and 85.9% of them were on antiretroviral therapy. PPIUD was inserted during cesarean section in 66.1% of cases. There was no significant association between HIV infection and PPIUD complications (RR = 0.7, 95% CI [0.4–1.3], p = 0.3). The risk of genital infections was not increased in HIV-infected women (RR = 0.6 [0.1–2.7], p = 0.7).

Conclusion: HIV infection does not increase the risk of PPIUD complications. This effective contraceptive strategy can be offered to HIV-infected women. It is therefore necessary to strengthen the training of maternity staff in the installation of PPIUD.

Keywords: HIV · AIDS infection · PPIUD · Copper IUD · Complications

Introduction

In most Asian countries, the prevalence of HIV/AIDS among women of childbearing age and the maternal mortality ratio are at levels of concern. According to UNAIDS, nearly 60% of adults infected with HIV in this region are women of childbearing age^[1] In addition, this region alone accounts for more than half of all maternal deaths worldwide each year^[2] Family planning by preventing unwanted pregnancies prevents almost one-third of maternal deaths^[3] In HIV-infected women, effective contraception prevents maternal mortality and vertical transmission of HIV^[4] Almost all countries in sub-Saharan Africa have low contraceptive

prevalence^[5] Thus, according to United Nations, modern contraceptive prevalence in Côte d'Ivoire was only 16.3% in 2017^[6] Moreover, in these countries, few women return to the postnatal visit and the gravid-puerperium remains their main moment of contact with the reproductive health services. Hence in recent years the emphasis is laid on immediate postpartum contraception, including the intrauterine device (IUD) and implant, to increase contraceptive coverage in these developing countries. The IUD is a safe, effective and inexpensive contraceptive method with good acceptability in the immediate postpartum^[7] A Cochrane review also provided evidence regarding the safety and

feasibility of the IUD inserted in the immediate postpartum period [8] Previous studies have shown that the IUD is safe for women infected with stable HIV, that is, patients who have no opportunistic infection or coexisting infection in progress [9] However, the IUD in these studies was not inserted in the immediate postpartum period. The objective of this study was therefore to assess whether the risk of complications after insertion of PPIUD was higher in HIV-infected women than in uninfected women.

Materials and Methods

This is a retrospective cohort study carried out in the obstetrics and gynecology department of the s.m.s. medical college, Jaipur between January 2020 and March 2021. It focused on women who refused the use of condom during sexual intercourse but who accepted the insertion of a PPIUD with a follow-up of at least 6 weeks during the study period. The IUD used was TCU 380A, and the insertion was done in eligible patients after counseling. An ultrasound was performed 6 weeks after the insertion of the PPIUD to check its right location. Among these women, those who were HIV-infected were identified and compared to HIV-negative women with a matching time of insertion of the PPIUD and at a rate of 1 HIV-positive woman for 2 HIV-negative women. The criteria for non-inclusion were as follows: lost to follow-up patients, cases of IUD expulsion, incomplete files and patients with advanced stages of the HIV infection (coexisting infection or an extremely low CD4 count). The data needed for our study were collected using a standardized questionnaire from the birth registry and medical records. The variables studied included socio-demographic data and medical data related to HIV infection (an PPIUD). PPIUD complications that were sought were pelvic pain, bleeding and genital infections. Diagnosis of genital infections was based on the following criteria: abnormal vaginal discharge with positive sexually transmitted infection from vaginal swabs or pelvic tenderness with at least one

of the following signs: temperature above 38 °C and positive C-reactive protein. Data analysis was performed using appropriate software. The relationship between PPIUD complications and HIV infection was investigated using the Pearson Chi-squared test or Fischer's exact test (when recommended). A p value < 0.05 was accepted as the significance level. The risk of PPIUD complications related to HIV infection was estimated by the calculation of relative risk with a 95% confidence interval (95% CI). The study being retrospective, it was not necessary to have the consent of patients. However, their confidentiality has been respected.

Results

During the study period, 901 PPIUDs were inserted, 67 of which (that is 7.4%) in HIV-infected women. But 32 of them were involved in the analysis, with an eligibility rate of 95.5% (Fig. 1). Table 1 presents the socio-demographic features of HIV-infected women in whom a PPIUD was inserted. Their mean age was 33.1 ± 5.8 years. They had a median parity of 3 with extremes at 0 and 7. Among them, 12 (37.5%) had scarred uterus. The medical data of the infected women in whom a PPIUD was inserted are summarized in Table 2. For 53.1% of women, the HIV-positive status was known before pregnancy and 85.9% of them were on antiretroviral therapy. The IUD was inserted in the majority of them (65.6%) during cesarean section. The median duration of patients follow-up was 8 weeks (extremes at 6 and 24 weeks). The incidence of PPIUD complications was 18.7% in HIV-infected women versus 25.8% in the control group. This was a genital infection in two HIV-infected women (3.1%) and seven uninfected women (5.5%). At the statistical analysis, HIV infection was not associated with a significant increase in the overall incidence of PPIUD complications (RR = 0.7 [0.4–1.3], p = 0.3). In addition, the risk of complications occurring in isolation was similar in both groups Table 3

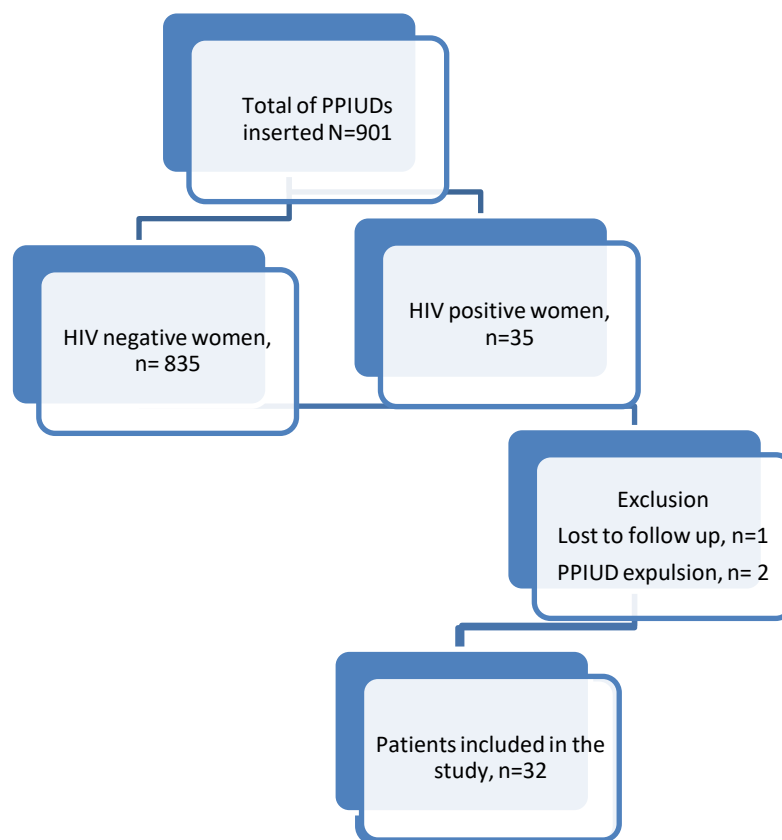


Fig. 1 Enrollment process in the study

Table 1 Socio-demographic features of HIV-infected women with PPIUD (n = 32)

Features	Number	Percentage (%)
Age (years)	n=32	
< 20	1	1.6
20–29	10	32.8
30–39	18	56.2
≥ 40	6	9.4
Parity		
Primiparous (1 delivery)	2	6.2
Paucipara (2–3 deliveries)	12	39.1
Multiparous (≥ 4 deliveries)	18	54.7
Occupation		
Liberal	19	56.2

Housewife	10	31.3
Employee	2	9.4
Pupil/student 3.1	1	3.1
School education level		
Uneducated 29.7	10	29.7
Primary school level 28.1	9	28.1
Secondary school level 31.3	10	31.3
Higher level 10.9	3	10.9
Marital status		
Single woman 9.4	1	9.4
Married woman 90.6	31	90.6
Scarred uterus		
Yes 37.5	12	37.5
No 62.5	20	62.5

Table 2 Medical data of HIV-infected women with PPIUDs (n = 32)

Features	Number	Percentage %
	(N = 32)	
Time of HIV testing		
Before the current pregnancy	17	53.1
During the current pregnancy	12	37.5
At the maternity hospital	3	9.4
Antiretroviral therapy		
Yes	28	58.9
No	4	14.1
CD4 count (elements/ml)		

200–349	4	10.9
≥ 350	22	70.3
Unspecified	6	18.8
Mode of admission		
Evacuated	17	54.7
Followed up in the department	15	43.5
Time of counseling for PPIUD		
During prenatal consultations	7	23.4
In labor lag phase	24	75
Immediate postpartum	1	1.6
Time of insertion of PPIUD		
Post-placental	7	21.9
Immediate postpartum	4	12.5
During cesarean section	21	65.6
Duration of follow-up		
8 weeks	12	60.9
≥ 9 weeks	20	39.1

Table 3 Association between HIV infection and PPIUD complications

PPIUD complications	Type of complications							
	Pain		Infections		Metrorrhagia		Genital	
	Yes	No	Yes	No	Yes	No	Yes	No
HIV + (n = 32)	6(18.7%)	26	4	28	1	31	1	31
HIV – (n = 64)	17(25.8%)	47	8	56	5	59	4	60
RR [95% IC]	0.7 [0.4–1.3]	1[0.4–2.2]	0.4p0.1–1.8]	0.6[0.1–2.7]				
P	0.3	1	0.3	0.7				

This study therefore suggests that IUD insertion in the immediate postpartum is safe for HIV-infected women. In an area of high prevalence of HIV infection such as ours, these results demonstrate that PPIUD should be considered as one of the

appropriate contraceptive options for women living with HIV. This requires developing strategies to ensure the continued availability of IUDs in maternity hospitals and to train maternity care staff in counseling and PPIUD insertion. Further studies are

needed to deepen the long-term impact of PPIUD on

Discussion

In this study, HIV infection was not associated with increased risk of PPIUD complications. In fact, our analysis found that the rate of complications of PUPs in HIV-infected women and women without HIV was similar. Better still, the risk of genital infections after insertion of the PPIUD has not increased in HIV-infected women. There is insufficient data in the literature to assess the safety of the IUD inserted in the immediate postpartum period in HIV-infected women. The available data concern only the inserted IUD in HIV infected women outside this critical period^[10, 11]. Thus, a prospective cohort study assessed the risk of complications after insertion of the copper IUD. The risk of IUD complications was not significantly higher in HIV-infected women^[12]. Furthermore, a controlled randomized trial comparing copper IUD and hormonal contraception for 2 years in 599 HIV-infected women showed that hormonal contraception was associated with a more rapid progression of HIV infection^[13]. Unlike the copper IUD, hormonal contraceptives can affect the

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this population at risk. effectiveness of anti-retrovirals through drug interactions^[14, 15]. However, despite the lack of effect of the copper IUD on the course of HIV infection, it is recommended to limit its indications before the stage of AIDS disease^[16]. These results demonstrate the safety of copper IUD in HIV-positive women in terms of the overall incidence of complications, incidence of genital infections and the progression of HIV infection. These results also indicate that PPIUD, is a deemed effective and safe contraceptive strategy, which may be appropriate for women living with HIV.

Conclusion

The benefits of safe and effective contraception for women living with HIV are enormous as they encompass the prevention of both maternal and pediatric AIDS. In this study, the insertion of PPIUD in HIV-positive women did not significantly increase the risk of IUD-related complications. In addition, HIV-infected women had no increased risk of developing genital infections after PPIUD insertion.

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