



TO STUDY CLINICAL AND MICROBIOLOGICAL CHANGES IN IUCD USERS

Gynaecology

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ABSTRACT

In a developing country like India birth control measures play a pivotal role in guiding population density¹. IUCD is the world's most widely used method of reversible birth control. Aim :To study clinical and microbial changes in IUCD users in a tertiary care hospital .Women visiting Family Planning clinic for follow up (IUCD users, n=100) or for IUCD insertion (controls, n=50) were enrolled in the study. Each subject underwent detailed history, general physical, systemic, and local examination. Chief complaints of IUCD users included backache (54%), vaginal discharge (46%), pain lower abdomen (34%), dyspareunia (22%), menorrhagia (18%) and dysmenorrhea (14%)⁴. Trichomonas vaginalis and fungal hyphae positivity and gram stain findings and bacterial vaginosis rate were not significantly different in two groups. Vaginal discharge bacterial culture revealed comparable results in two groups. Women using IUCD requires a regular follow up, clinical examination, counseling and further investigation.

KEYWORDS:

Intrauterine contraceptive device, Gram staining.

INTRODUCTION:

Intrauterine contraceptive device (IUCD) is commonly used method of family planning. Effect of any contraceptive measure is always observed very keenly and intrauterine device is no exception. IUCD is a device, which is fitted into maternal system, evokes a more intense scrutiny. IUCD generally has shown to be safe and effective but tend to have some side effects. It has been reported that reproductive tract infection is one of the major complications caused by prolonged usage of an IUCD². The present study evaluated gynecological problems, spectrum of lower genital tract infections among IUCD users at a tertiary care teaching hospital.

MATERIAL & METHODS:

This was a prospective analytic study conducted at Department of Obstetrics and Gynecology, Zanana Hospital, SMS Medical College Jaipur over a period of one year (March 2016 to April 2017). This study comprised of study subjects (n=100) using IUCD for variable period and attended family planning clinic or gynecological OPD for routine follow up. The subjects were chosen randomly irrespective of their complaints and socio-demographic profile. The control subjects (n=50) were women who did not have any gynecological complaint and came for IUCD insertion. Each subject underwent general physical, systemic and pelvic examination. Examination was carried out to look for thread or displacement of IUCD, condition of vagina and cervix and for discharge. Vaginal discharge was collected from posterior fornix for Gram staining, KOH mount, wet mount and in a transport medium for culture and sensitivity testing. pH of vagina was noted by dipping narrow range pH monitor in the vaginal discharge. Bimanual examination was done to rule out pelvic inflammatory disease. Wet mount smear was examined within 15 minutes of collection for Trichomonas vaginalis. KOH mount was examined for presence of fungal hyphae. A microbiologist examined the Gram stain slides. Bacterial vaginosis was defined as per Nugent criteria. Vaginal discharge was cultured on Mac-conkey (for aerobic growth) and Thayer Martin (for Gonococcus) agar. The organisms were identified by colony morphology and biochemical tests. The isolated organisms were tested for commonly used antibiotics. Subsequent follow up was individualized depending upon the diagnosis and patients convenience. All the clinical and laboratory findings were recorded in a predesigned proforma. The data were entered into Microsoft Excel spreadsheet. The results were expressed as percentages, mean $\pm$ standard deviation, median. The results were

analyzed using EPI Info version- 6 and Stata version 7 statistical package. Two tailed t-test, chi square and two-tailed Fisher exact test were applied. The significance level was taken at 5%.

Table :1 Distribution of cases according age, religion, education & complains:

	Controls No(%)	Cases No.(%)	P value
Age in years			
≤20years	4(8%)	5(5%)	
21-25years	34(68%)	38(38%)	
26-30years	12(24%)	37(37%)	
≥30 years	0	20(20%)	0.05
Religion			
Hindus	46(92%)	87(87%)	0.16
Muslims	4(8%)	13(13%)	
Residence			
Urban	40(80%)	80(80%)	0.57
Rural	10(20%)	20(20%)	
Education			
Illiterate	0	8(8%)	0.09
Primary	7(14%)	22(22%)	
Secondary	43(86%)	70(70%)	
Complaints	No.(n=100)%		
Backache	56		
Vaginal discharge	51		
Pain lower abdomen	30		
Dyspareunia	20		
Intermenstrual spotting	15		
Psychosexual problems	4		
Patient for routine follow up without any complaints	20		

Table:2 Findings of pH ,Wet mount, KOH mount study:

Ph	Controls No.	Cases No.
4	0	5(5%)
4.5	45(90%)	87(87%)
≥5.0	5(10%)	8(8%)
Total	50	100

Wet mount study	Controls	Cases
Positive for T.V. No. %	2(4%)	15(15%)
Negative for T.V. No. %	48(96%)	85(85%)
Total	50	100

Pvalue: 0.14

KOH mount study	Control No.(%)	Cases No. (%)
Fungal hyphae present	6(12%)	20(20%)
Fungal hyphae absent	44(88%)	80(80%)
Total	50	100

Pvalue:0.50

Table:3 Vaginal discharge culture:

Culture	Controls No(%)	Cases No(%)	p-value
Sterile	0	4(4%)	
E.coli	18(36%)	40(40%)	0.76
Coagulase positive staphylococcus	12(24%)	22(22%)	0.94
Coagulase negative staphylococcus	6(12%)	14(14%)	0.93
Pseudomonas pyocyanous	2(4%)	4(4%)	0.73
Streptococcus faecalis	4(8%)	6(6%)	1
Enterobacter clocae	2(4%)	4(4%)	1
klebsella	2(4%)	0(0%)	0.10
Total	50	100	

Results : A total of 100 IUCD users and 50 controls were studied. The baseline characteristics of two groups were comparable (table 1). Chief complaints of IUCD users included backache, vaginal discharge and menorrhagia. In present study, 90% of the control subjects had pH of 4.5 which is normal pH in reproductive age group. On wet mount study of vaginal discharge, 15% of the study subjects and 2% of control subjects were positive for trichomonas vaginitis. On KOH mount study 12% of the control subjects and 20% of the study subjects showed fungal hyphae on KOH mount examination of vaginal discharge. Doderlien bacilli which are normally present in vagina were seen in 70% of control and 74% of study subjects. There is slight increase in yeast cells from 12% in control to 28% in study subjects, clue cells were seen in 8 %control and 8% of study subject. Most common organism on culture of vaginal discharge was turned out to be E.coli in both study(40%) and control (36%) groups followed by coagulase positive staphylococci and coagulase negative staphylococci. This study again reveals that there is no qualitative change in vaginal flora among IUCD users different from normal vaginal flora.

Discussion : Infection has been one of the main concerns in IUCD use. It is generally recognized that the usage of IUCD results in quantitative and not qualitative alterations in the normal vaginal bacterial flora with increase in anaerobic bacterial organisms following IUCD insertions. The present study showed some increase in trichomonal, bacterial and fungal infection but none of them was significant. Cochrane Review Group noted a low risk of IUCD-associated infection, with or without use of antibiotic prophylaxis, in trials included in the meta-analysis. **Fatemeh Shobeir et al** found that there was no significant increase in cervicovaginal infection however the study did not at quantitative aspect of it. **David Hubacher** found that the risk of PID among IUD users is low and similar to the rate in a general population of sexually active women. However, the higher rate during the first month suggests that the insertion procedure may cause additional cases of PID. There was no significant increase in cervicovaginal infection however the study did not look at quantitative aspect of it. In conclusion, the present study shows the safety of IUCD in general however the users had a significant proportion of symptoms. Thus these women require a regular follow up for counselling, clinical examination and further investigation as needed.

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