

**Research Article**

**To study colposcopic and cytological changes in cervix in women using intrauterine contraceptive device**

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**Abstract**

**Objective(s):** To study cervical changes in copper-T users, along with effect of Cu-T on cervical pap smear and colposcopy to ascertain the safety of Cu-T with reference to cervical dysplasia.

**Method(s):** 50 women with Cu-T in situ were subjected to detailed history taking, clinical examination, pap smear study, high vaginal swab culture sensitivity and colposcopic examination. These women were compared with 50 asymptomatic women without any IUCD matched for age parity and socioeconomic status.

**Results:** Backache (48%) and menorrhagia (38%) were most common complaints. 46% of subjects had normal cytology as compared to 96% in controls. Atypia of squamous cell of undermined significance were seen in 2% of subject as compared to none in controls. Infections were present in 20% of subjects.

**Conclusion(s):** There is no precipitous carcinogenicity of Cu-T but a long term follow up is needed. Subjects having Cu-T deserves continuous surveillance but are not subjected to increased risk of malignancy.

**Keywords:** Cu-T users, pap test, colposcopy

**1. Introduction**

About 106 million women throughout the world are using IUCD. At present Cu-T200B is the most commonly used IUCD in India<sup>1</sup>. It is a reliable, reversible, economic & safe method for regulation of population. Thread of IUCD tail being a source of constant irritation may be responsible for cervical erosion and dysplasia. It may provide a conduit for ascending infection from vagina. This study deals with the changes in cervical cytology & colposcopic findings in subjects using IUCD for a variable period.

**2. Methods**

The present cross sectional study was conducted in the Department of Obstetrics and Gynecology, S N Medical College and Hospital, Agra. Women coming to Family Planning clinic and out patient department and using IUCD for contraception were selected for the study.

Study group included 50 women using IUCD for variable period. 50 women of reproductive age group without any gynecological complaint were selected as control. After taking informed consent the case and control groups were subjected to detailed history, physical examination, pap smear, high vaginal swab culture, sensitivity and colposcopic examination.

The study was cleared by the ethical committee of the institution. The results of study were analyzed using paired t test.

**3. Result**

Backache 24 (48%) was the most common complaint followed by menorrhagia 19 (38%), lower abdominal pain 10 (20%), vaginal discharge 9 (18%) and expulsion of IUCD 1 (2%). (Table 1)

**Table 1: Chief complaints in Cu-T users**

Study Group		
Chief complaints	Number	Percentage (%)
Backache	24	48
Menorrhagia	19	38
Lower abdominal pain	10	20
Vaginal discharge	9	18
Expulsion of IUCD	1	2

Copper-T 200 B was the most common used IUCD 46 (92%) followed by Multi-load 250 in 2 (4%) and Copper-T 380 A. 18 (36%) subjects were using IUCD for 1 year, 15 (30%) subjects were using IUCD for 2 years, 15 (30%) were using IUCD for 3 years and 2 (4%) were using IUCD for more than 3 years. The mean duration of IUCD use was 1.98 years. (Table 2)

**Table 2: Distribution of subjects according to the duration of IUCD use**

Study Group		
Duration of IUCD insertion	Number	Percentage (%)
Upto 1 year	18	36
Upto 2 year	15	30
Upto 3 year	15	30
More than 3 year	2	4
Total	50	100

Infection was present in 2(11.11%), 3(20%) and 5(33.33%) using IUCD upto 1 year, upto 2 years and upto 3 years respectively. Reactive/ reparative changes were present in 4(22.22%), 5(33.3%) and 1(50%) in subjects using IUCD upto 1 year, upto 2 years and upto 3 years respectively. ASCUS was present in 1(6.66%) subject using IUCD upto 3 years. LSIL was present in 1 subject using IUCD for more than 3 years. (Table 3)

**Table 3: Distribution of subjects according to cervical cytology in relation to duration of IUCD use**

Study Group				
Cervical Cytology	Upto 1 year (%)	Upto 2 year (%)	Upto 3 year (%)	More than 3 year (%)
Normal	12(66.66)	7(46.6)	4(26.66)	-
Infection	2(11.11)	3(20)	5(33.33)	-
Reactive/ reparative	4(22.22)	5(33.3)	5(33.33)	1(50)
ASCUS	-	-	1(6.66)	-
LSIL	-	-	-	1(50)
Total	18(100)	15(100)	15(100)	2(100)

Trichomonas was positive in 6(12%) subjects while 4(8%) were positive for polymicrobial infection. 38(76%), 11(22%), and 1(2%) subjects of study group showed normal, cervicitis with erosion and CIN I respectively on colposcopy. In the study group 49(98%), 1(2%) subjects had normal, cervicitis with erosion respectively. (Table 4 & 5).

**Table 4: Overall impression of Colposcopy**

Study Group				
Impression	Number	Percentage (%)	Number	Percentage (%)
Normal	38	76	49	98
Cervicitis with Erosion	11	22	1	2
CIN I	1	2	-	-
CIN II	-	-	-	-
CIN III	-	-	-	-

**Table 5: Distribution of subjects according to overall impression of colposcopy in relation to duration of IUCD use**

Impression	Study Group			
	Upto 1 year (%)	Upto 2 year (%)	Upto 3 year (%)	More than 3 year (%)
Normal	15 (83.3)	12 (80)	11 (73.3)	-
Cervicitis with Erosion	3 (16.6)	3 (20)	4 (26.6)	1 (50)
CIN I	-	-	-	1 (50)
CIN II	-	-	-	-
CIN III	-	-	-	-
Total	18 (100)	15 (100)	15 (100)	2 (100)

#### 4. Discussion

A number of reports suggest that copper devices are effective & safe but the effect of copper on cervical epithelium with regard to dysplasia has not been specifically reported. IUCD usage by a large of women has caused concern about its safety especially regarding carcinogenicity. The aims of this study are to report clinical, cytological and colposcopic findings among women using IUCD. A total of 50 women using IUCD failed to reveal any case of malignancy or severe dysplasia. Most of the subjects with IUCD presented with backache (48%), menorrhagia (38%), lower abdominal pain (38%), vaginal discharge (18%). Similar results were found by study done by Naik *et al*<sup>2</sup> in 2007 the most common complaint was backache (44%), followed by menorrhagia (38%). ASCUS was seen in one subject using IUCD for 3 years and CIN I was in seen one subject using IUCD for more than 3 years. The incidence of ASCUS & CIN I increases with the increase in duration of insertion being maximum when the duration of insertion is more than 3 years. Rahmy<sup>3</sup> in 1990 studied 200 women with Lippes loop and Copper T; colposcopically there was significant increase in inflammatory change in both Lippes loop and Copper T 200 IUCD users compared to controls ( $p < 0.05$ ), but there was no difference in other colposcopic findings ( $p > 0.05$ ).

12% subjects of study group were positive for Trichomonas and 8% were positive for polymicrobial (Gonococcal and Fungal) infection versus none of the subjects in control group were positive for high vaginal swab culture and sensitivity. Agrawal et.al in 2004 showed Trichomonas vaginalis and Fungal hyphae positivity and gram stain finding and bacterial vaginosis were present significantly higher in study group<sup>4</sup>. Raquel Ferraz do Lago<sup>5</sup> et.al in 2003 studied 223 women with T380 A Copper and followed patients after 6 months. They found the prevalence of cervicovaginal infections 29%.

#### 5. Conclusion

Based on this study it can be concluded that women using copper containing intrauterine devices are not subjected to increased risk of cervical malignancy. However a long term follow up is required to rule out the possibility of any increased rate of dysplasia or carcinoma *in situ*. Thus these women require a regular follow up for counseling, clinical examination and further investigation as needed.

#### References

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