

"HISTOPATHOLOGICAL CHANGES IN FALLOPIAN TUBES OF WOMEN USING INTRUTERINE CONTRACEPTIVE DEVICES"

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SUMMARY

Fifty IUD wearers and fifty non-IUD wearers prior to tubectomy were compared for histopathological changes of resected fallopian tubes. 54% of the cases compared to 26% of controls showed histopathological changes suggestive of non-specific chronic inflammatory changes statistically significant at $P < 0.1$. Type of IUD did not influence the incidence of these changes. However, duration influenced the incidence of these changes, statically significant difference at $P < 0.02$ was seen among those who used IUD for more than one year. It is evident that IUD is cause of PID. However, inflammatory changes among 26% of non-IUD users needs further studies in the community to know exactly incidence of PID in general population.

Introduction

Over the past decade I.U.D's have been popularly used as an effective method of contraception because of simplicity, low cost, efficacy and long term method of reduction in fertility (Tatum, 1972). But during recent years complications have increased of P.I.D. and chronic non-specific salpingitis among IUD wearers has been reported (Targum and Wright, 1974; Smith and Soderstrom, 1976; Poorna, 1980). The present study was done to see histopathological changes of Fallopian tubes among Kashmiri women using IUD's before tubal ligation.

Material and methods

The present study was conducted in Lala Ded Hospital for Women, Govt. Medical College, Srinagar. A total of 100 women admitted in the Hospital for tubectomy were selected randomly. Fifty women with IUD and fifty without an IUD before the operation were selected as the cases and the controls respectively. The resected tubes were processed and examined for histopathological changes, if any, in the Department of Pathology, Govt. Medical College, Srinagar. All the women were subjected to detailed examination and history regarding socio-economic status, personal hygiene and IUD use was recorded. Investigations like complete

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haemogram and urine examine was done according to a pretested schedule.

Observations

The majority of the women were young and sexually active aged 25-35 years representing 80 and 90% respectively of the cases and controls. All the women belonged to middle socio-economic stratum of society. All were multiparous with normal physical, systemic and gynaecological examination except two among controls who had rectocele which was corrected along with tubectomy.

Regarding the type of IUD used before tubectomy 48% used Lippe's loop and the rest i.e.

52% Copper T. Majority (80%) had IUD for more than one year. Maximum duration of use was 11 years in one case and minimum was 6 months in 10 cases 78% had the IUD insertion by a Gynaecologist in the hospital or private clinic, and the rest i.e. 22% by a doctor at P.H.C.

82% had interval, 10% puerperal and 8% post-abortal insertion. All those who had got post-abortal insertion had received antibiotics before insertion.

Histopathological examination of the resected tubes revealed chronic inflammatory changes in 54% of the cases as compared to 26% of the controls, the observed difference is statistically significant at $P < 0.01$ (Table I). 73.8% of

TABLE I
Histopathological Changes in Fallopian Tubes.

Histopathological Changes	Cases		Controls	
	No.	%	No.	%
Nil	23	46.00	37	74.00
Chronic non-specific inflammatory changes	21	42.00	9	18.00
Round cell infiltration	3	6.00	4	8.00
Obliteration of lumen	3	6.00	-	-
Total	50	100.00	50	100.00

$X^2 = 8.17$, DF=1 and $P < 0.05$

TABLE II
Histopathological changes in number of tubes

Changes in number	Cases		Controls	
	No.	%	No.	%
Unilateral	7	26.8	4	30.8
Bilateral	19	73.2	9	69.2
Total	26	100.00	13	100.00

$X^2 = 0.64$, DF = 1 and $P > 0.05$ insignificant.

the cases compared to 69.2% controls had bilateral inflammatory changes, the difference between the two groups is statistically insignificant at $P > 0.5$ (Table II).

Comparative analysis of the histopathological changes in relation to the type of IUD showed that 58% Copper-T wearers and 62% of Lippe's loop wearers had changes. The difference between the two is statistically insignificant at $P < 0.01$ (Table III).

The routine investigations like haemogram and urine examinations were normal in all but 46% of the cases and 28% of the controls had raised ESR. All such cases had histopathological changes except 1 (2%) of the control group.

Discussion

Fifty-two percent for the cases compared to 26% of the controls had chronic non-specific inflammatory changes, statistically significant at

TABLE III

Histopathological Changes in relation to type of IUD

Histopathological changes	Type of I.U.D.:			
	Copper-T		Lippe's loop	
	No.	%	No.	%
No changes	10	42.00	10	38.00
Inflammatory changes	14	58.00	16	62.00
Total	24	100.00	26	100.00

Duration of IUD use and histopathological changes showed that chronic inflammatory changes were observed among 20% of those who used it for less than one year compared to 62.5% among those who used it for more than one year. The observed difference is statistically significant at $P < 0.02$ (Table IV).

$P < 0.01$. This finding is in tune with the observation of Smith and Soderstrom (1976) who reported 47% of chronic non-suppurative salpingitis in IUD wearers undergoing laparoscopic tubal ligation and less than 1% among non-IUD users which in present series is 26% which needs elucidation by studies in the community to know

TABLE IV

Histopathological changes in relation to duration of IUD use.

Duration in years	Changes		No change		Total	
	No.	%	No.	%	No.	%
< 1	2	20.00	8	80.00	10	100
> 1	25	62.5	15	37.5	40	100

$$X^2 = 5.81, DF = 1 \text{ and } P < 0.025$$

actual incidence of PID in general population. Statistically insignificant difference at $P > 0.01$ is observed between Lippe's loop and Copper-T wearers. Statistically insignificant difference was observed between the cases and the controls as far as the unilateral or bilateral tubal chronic inflammatory change is concerned. The duration of IUD use and chronic inflammatory changes observed is statistically significant at $P < 0.02$ clearly indicate that IUD causes foreign body tissue reaction leading to inflammatory changes. A proper follow up of IUD wearers is suggested

to detect and treat salpingitis if present in time and also ensure its absence before insertion.

References

1. POOMA, P.A. *Int. J. Fertil.* 25: 287-92, 1980.
2. Smith, M.R. and Soderstrom, R.M. *J. Reprod. Med.* 16: 159-62, 1976.
3. Tatum, H.J. *Am. J. Obstet. and Gynaecol.* 112: 1000-21, 1972.
4. Targum, S.D. and Wright, N.H. *A.m. J. Epid.* 100: 262-71, 1974.

TABLE IV
Histopathological changes in relation to duration of IUD use

Histopathological changes	Type of I.U.D.		Total
	Copper-T	Lippe's loop	
No changes	10	10	20
Inflammatory changes	14	16	30
Total	24	26	50

Duration of IUD use and histopathological changes showed that chronic inflammatory changes were observed among 50% of those who used Lippe's loop and 53% of those who used Copper-T. The observed difference is statistically significant at $P < 0.05$ (Table IV).

TABLE IV

Histopathological changes in relation to duration of IUD use

Duration in years	Changes		No change		Total
	No.	%	No.	%	
< 1	2	50.0	2	50.0	4
> 1	22	83.3	4	16.7	26

$\chi^2 = 2.81$, D.F. = 1 and $P < 0.05$