A CLINICO-PATHOLOGICAL COMPARATIVE STUDY OF 304 LIPPES LOOP AND 709 COPPER-T (200 SQ. MM.) INSERTIONS

by

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SUMMARY

A clinico-pathological comparative study of 304 cases of Lippes' Loop and 709 cases of Cu-T has been made. The various reasons for removal are described. 12.83 per cent of Cu-T and 29.93 per cent of Lippes' Loop were removed for various reasons within 6 months. 106 cases (14.95%) of Cu-T and 39 cases (12.66%) of Lippes' Loop had removal of I.U.Ds without any complaints after 3 years of use.

The removal rate due to bleeding was much less with Cu-T (4.9%) than with Lippes' Loop (11.5%). Spontaneous expulsion was significantly lower in Cu-T (1.5%) than Lippes' Loop.

Histopathological examination of endometrium revealed that 71.8% of Cu-T and 62.9% of Lippes' Loop users had no abnormality except scanty endometrium.

The major advantages of Cu-T I.U.Ds over Lippes' Loop are, less menstrual blood loss, better tolerated by low parity women, lower expulsion rate, less traumatic being small in size with smaller insertion tube, Cu-T as I.U.D. can safely be used and proper follow-up is essential to have confidence of the acceptors and to evaluate results.

Introduction

A clinico-pathological comparative study was undertaken in the department of Obstetrics and Gynaecology, Central Hospital, Maligaon, Assam in order to evaluate the merits and demerits of the two devices namely, Lippes' Loop and Copper-T.

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Material and Methods

From January 1973 to December 1983, 2,948 Medical Termination of Pregnancies (M.T.P.) were done. Six hundred cases (20.23%) accepted Cu-T and 297 cases (10.07%) accepted Lippes Loop after M.T.P. Seven cases (2.3%) had Lippes Loop and 109 cases (15.37%) had Cu-T insertion during interval period.

All these women were followed up. Post-insertion side-effects were observed and

endometrium was subjected to histopathological examination after removal.

Observations

The age and parity distribution are shown in Table I.

Table II indicates comparative side-effects of the two intra-uterine devices. Menorrhagia was much less with Cu-T (7.6%) than with Lippes Loop (13.1%) users. Expulsion rate was significantly lower in Cu-T (1.5%) than Lippes Loop (8.8%) group.

Displacement in utero was observed in 4 cases (1.3%) and pregnancy occurred in 1 case (0.32%) of Lippes Loop users and none in Cu-T users. There was I perforation of uterus (0.32%) by Lippes Loop which was lying in the Pouch of Douglus, removed through posterior fornix and vaginal ligation was done. A very unusual case of perforation with Cu-T (0.14%) was observed in this series. A patient with Cu-T in situ for more than 6 months reported slight pain in the lower abdomen and

TABLE I
Demographic Data

Age (Years)	Lippes Loop (304)		Copper-T (109)	
	No. of cases	Per cent	No. of cases	Per cent
15-20	50	16.4	129	18.19
21-30	220	72.03	416	58.67
31-40	34	11.18	164	23.1
Parity				
1	67	22.03	115	16.2
2	116	38.1	240	33.85
3	67	22.03	211	29.7
4 and above	54	11.1	143	20.16

TABLE II
Complications

Complications	Lippes Loop (304)		Copper-T (709)	
	No. of cases	Per cent	No. of cases	Per cent
1. Abnormal uterine bleeding				
(a) Menorrhagia	40	13.1	54	7.6
(b) Spotting and metrorrhagia	18	5.9	16	2.25
(c) Continuous bleeding	15	4.9	17	2.3
2. Uterine cramps	28	9.2	27	3.8
3. Expulsion	27	8.8	11	1.5
4. Pelvic infection	12	3.9	10	1.3
5. Leucorrhoea with or without Pruritus Valvae	25	8.2	20	2.8
6. Displacement in utero	4	1.3	0	0.00
7. Scanty flow after 2½ years of use		0.00	19	2.67
8. Pregnancy	1	0.32	0	0.00
9. Perforation	1	0.32	1	0.14

slight rectal bleeding during defaecation for a short period. On examination the thread could be seen in the os and uterus was retroverted and normal in size. There was tenderness in the posterior fornix. She was referred to general surgeon who on proctoscopy detected little protrusion of lower end of longitudinal axis of Cu-T with thread attached to it through anterior rectal wall. The Cu-T could be easily removed by pulling the thread through vagina. This is a rare case of perforation in supra vaginal portion of cervix and anterior rectal wall.

Table III shows the reasons for early removal of the devices. The major cause of symptomatic removal was menorrhagia in both groups — 35 cases (11.5%) of Lippes' Loop and 29 cases (4.9%) of Cu-T users.

scanty endometrium. Haemorrhagic changes of endometrium with oedema of stroma (Fig. I) was observed in these I.U.D. users who had menorrhagia — 15 cases (11.1%) of Cu-T and 8 cases (14.81%) of Lippes Loop users. Twelve cases (8.88%) of Cu-T had glandular hyperplasia of epithelium. There was glandular hyperplasia in 2 cases (1.48%) of Cu-T and 8 cases (14.8%) of Lippes Loop users. Collezinisation of major part of endometrium (Fig. 2) in 2 cases (1.48%) and papillary changes of surface epithelium (Fig. 3) in two cases (1.48%) were observed in Cu-T group who had the device for more than four years. Glandular hyperplasia with degenerative change and back to back arrangement of cells was found in 2 cases (3.7%) of Lippes Loop acceptors who had the I.U.D. for 10 years.

TABLE III

Reasons for Removal Within 6 Months of Insertions

Reasons	Lippes Loop (304)		Copper-T (709)	
	No. of cases	Per cent	No. of cases	Per cent
1. Bleeding	35	11.5	29	4.9
2. Expulsion	27	8.8	11	1.5
3. Anxiety	10	3.2	38	5.3
4. Leucorrhoea	7	2.3	8	1.1
5. Pelvic infection	6	1.9	4	0.56
6. Displacement in utero	4	1.3	0	0.00
7. Pregnancy	1	0.32	0	0.00
8. Peforation	0.32	1	0	0.14

Table IV explains the causes of removal of I.U.Ds at any time after one year of insertion and histopathological findings. In this series also menorrhagia was the major cause of removal of I.U.Ds, 15 cases (4.8%) of Lippes Loop and 20 cases of Cu-T (2.82%). Biopsy reports of 97 cases (71.8%) of Cu-T and 34 cases (62.9%) of Lippes Loop users revealed no abnormality except

Discussion

In this study it has been observed that both Lippes' Loop and Cu-T are safe and effective provided they are inserted under proper aseptic care by experienced hand. However, Cu-T produces less side-effects than Lippes' Loop which was also observed by Tatum (1973). Menorrhagia was the

TABLE IV

Reasons for Removal After 1 Year of Use With Histopathological Findings

Causes of removal and histopatholoical findings (H.P.F.)	Lippes Loop (54)		Copper-T (135)	
	No. of cases	Per cent	No. of cases	Per cent
1. Menorrhagia 1 year to 3 years of use	15	4.8	20	14.8
H.P.F.	1. Stroma oedematous, haemorrhagic, glandular epithelial hyperplasia—8 (14.8%) 2. Stroma oedematous with glandular hyperplasia—3 (5.5%) 3. Normal scanty endometrium—4 (7.4%)		1. Proliferative phase with oedematous and haemorrhagic stroma — 15 (11.1%) 2. Normal scanty endometrium — 5 (3.7%)	
2. Leucorrhoea with pelvic pain after 2½ years of use	0	0.00	5	0.7
H.P.F.			1. Proliferative phase, stroma infiltratetd with round cells, polymorphos — 2 (1.4%) 2. Hyperplasia of surface epithelium with large number of inflammatory cells — 3 (2.2%)	
3. Amenorrhoea after 2½ years of use	0	0.00	4	0.56
H.P.F.			1. Scanty endometrium with proliferative phase and round cells infiltration — 4 (2.9%)	
4. No complaints				
(a) Removal after 3 years of use	11	8.11	100	
H.P.F.	1. Endometrial glandular hyperplasia with chronic inflammatory cells—5 (9.25%) 2. Normal scanty endometrium — 6 (11.1%)		1. Scanty endometrium with proliferative phase — 86 (63.7%) 2. Stroma oedema with glandular epithelial hyperplasia — 9 (6.6%) 3. Scanty endometrium with glandular strophy — 5 (3.7%)	

TABLE IV (Contd.)

Causes of removal and histopathoological findings (H.P.F.)	Lippes Loop (54)		Copper-T (135)	
	No. of cases	Per cent	No. of cases	Per cent
(b) Removal after 4 years of use	24	17.7	6	0.84
H.P.F.	1. Scanty endometrium with proliferative phase —14 (25.9%)		1. Early secretory phase glandular hyperplasia — 2 (1.48%)	
	2. Scanty endometrium with glandulas atrophy — 10 (18.5%)		2. Scanty endometrium with collazinisation of endometrium — 2 (1.48%)	
			3. Papillary changes of surface epithelium — 2 (1.48%)	
(c) Removal after 10 years of use	4	1.47	0	0.00
H.P.F.	1. Glandular hyperplasia with degenerative changes and back to back arrangement of cells — 2 (3.7%)			
	2. Atypism of endometrium glands —2 (3.7%)			

common complication in both the groups though less in Cu-T (7.6%) than Lippes' Loop (13.1%). The same has been observed by Khan *et al* (1979) in Bangladesh — in Cu-T 14.3 per cent and in Lippes' Loop 16.9 per cent uterine cramps were less with Cu-T (3.8%) than with Lippes' Loop (9.23%) users. The same findings was observed by Randhawa *et al* (1981) 2.22 per cent in Cu-T and 3.26 percent in Lippes' Loop users. Expulsion rate of Cu-T was much less (1.5%) than Lippes' Loop (8.8%). Khan (1979) reported lower incidence in explulsion rate with Cu-T (2.5%) than with Lippes' Loop (10.6%).

There was I case of perforation of body of uterus by Lippes Loop (0.32%) and I case (0.14%) of perforation of supravaginal portion of cervix by longitudinal axis of Cu-T. Randhawa *et al* (1981) reported 0.17 per cent of perforation of cervix by transverse arm of the Cu-T. With Cu-T in situ for more than two years. 2.67 per cent cases had oligomenorrhoea and 0.56 per cent had amenorrhoea. The same had been observed by Revathi and Thulaso (1980), 3.07 per cent had oligomenorrhoea and 3.83 per cent had amenorrhoea with Cu-T. Biopsy reports of cases with menorrhagia showed oedema and harmorrhage in the stroma. Shaw *et al* (1979) reported in their study that the endometrium adjacent to the I.U.D. depressed area was usually oedematous and harmorrhagic. The authors feel these areas are responsible for I.U.D. induced bleeding.

3.2 per cent of Cu-T and 18.5 per cent of Lippes Loop acceptors showed grandular

strophy (Fig. 4) with I.U.D.s for more than 3 years and 5 years respectively. There were papillary changes of surface lining epithelium of endometrium in 1.4% of Cu-T users who had the device for more than 4 years. Constant pressure from Cu-T or presence of copper may be the cause of papillary changes which is yet to study. According to Zipper *et al* (1968) copper induces proliferation of stromal mucosa and this may produce polypoidal change of endometrial surface. Whether the severity of this polypoidal change has any neoplastic characteristic or any cause effect relationship with the duration of use of Cu-T yet to be studied in a large number of cases with proper follow-up. Two cases (2.7%) with Lippes' Loop for more than 10 years had glandular atypism and ultimately hysterectomy was performed.

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See Figs. on Art Paper I