

PROBLEMS OF LIPPES LOOP WITH UNTRACEABLE THREAD

by

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As an endeavour to population control, intra-uterine contraceptive devices have been widely used as a means of contraception. Since the beginning of the campaign for the use of I.U.D. as a method of family planning in 1965, more than three million women in India have received Lippes loop. Follow-up of the recipients showed menorrhagia, polymenorrhoea, leucorrhoea, and vague pain in the abdomen as the common discomforts encountered, (Kishore *et al* (1968), Mukherjee *et al* (1968), Virkar (1968), Dawn *et al* (1968). A new problem which often perplexes the general practitioner, family planning officers and gynaecologists is the untraceable thread of the loop, during follow-up. The management of this clinical problem has been illustrated with relevant case records and comments.

Material and Methods

In the Eden Hospital, Calcutta, 4,850 insertions of Lippes loop were made from 1965 till December 1969. In the year 1969, out of 744 women followed up, 38 cases had to be investigated further, for untraceable threads, the incidence being 5.7 per cent. Eight cases from this group are being reported to illustrate different clinical aspects of the problem.

The cases where threads were untraceable were grouped under the following headings:

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Received for publication on 3-10-1970.

1. Spontaneous expulsion had taken place.
2. Change of axis of the loop with indrawing of the thread.
 - (a) without pregnancy.
 - (b) with pregnancy.
3. Translocation of the loop.
 - (a) Asymptomatic extra-uterine displacement, without any evidence of perforation.
 - (b) Translocation with symptoms.
 - (i) Cases where the uterine muscle and peritoneum have been perforated with the loop forming an adnexal mass.
 - (ii) Where only the uterine musculature has been pierced without any perforation of the serosa.

Spontaneous Expulsion

Case 1

Mrs. A. S. 29 years, Bengali Hindu housewife from an educated family, para 3 + 0, last childbirth 6 months, loop was inserted immediately after last labour. She reported for a check up, when the thread could not be found.

Clinical examination showed the uterus retroverted, cervix had bilateral tears. The loop could not be located with an uterine sound. X-ray showed no loop in the lower abdomen and pelvis. Patient took to other method of contraception.

Change of Axis of the Loop with Indrawing of the Thread

(a) Without Pregnancy

Case 2

Mrs. M.B., 25 years, Bengali Hindu housewife of a low middle class family, para 3 + 0, last childbirth 2 years. Loop in-

sersion 4 months after her last childbirth had the presenting complaints of, excessive bleeding during periods, one year, and prolonged periods, the same duration. The thread of the loop could not be located during routine check up.

The loop could be felt within the uterine cavity with an uterine sound. X-ray showed loop in a completely reversed axis lying posterior to the uterine sound used as a contrast. (Fig 1).

The loop was removed vaginally under general anaesthesia, and endometrial curettage was done.

Case 3

Mrs. R.R.D., 28 years, Bengali Hindu housewife of a middle class family, para 2 + 1, last childbirth 3 years, loop insertion within 4 weeks of last childbirth, came for irregular cycles and prolonged periods for last one year. She had occasional intermenstrual spotting. The thread of the loop could not be located during routine check up. The loop could be felt within the uterine cavity with an uterine sound. X-ray showed the loop crumpled up in reversed axis within the uterine cavity. (Fig. 2). The loop was removed vaginally under general anaesthesia and endometrial curettage was done.

(b) With Pregnancy

Case 4

Mrs. N. D., 27 years, Bengali Hindu housewife of an educated middle class family, para 3 + 0, last childbirth 2 years. Loop insertion, one year, during lactational amenorrhoea, reported with amenorrhoea 5 months, swelling of the lower abdomen, quickening?

Clinical examination confirmed pregnancy of 20 weeks. Loop thread could not be seen. X-ray showed single foetus, with loop intrauterine high up in transverse axis above the presenting part. (Fig. 3).

The patient was followed up regularly, she had a spontaneous termination of pregnancy at 24 weeks. Premature baby died; the placenta was out but the loop got retained and had to be removed.

Case 5

Mrs. L.D., 34 years, Bengali Hindu

housewife from a low income group of family, para 6 + 0, last childbirth 2 years, history of insertion of loop one year before her last pregnancy while still lactating. Patient had conceived with the loop in situ, delivered of a stillborn female child at home. The loop got retained, which was confirmed radiologically by her family physician. Her present complaints were, amenorrhoea 6 months, swelling of the lower abdomen with foetal movements, weakness, acidity, constipation.

Clinical examination confirmed pregnancy of approximately 24 weeks. Loop thread could not be felt or seen per speculum examination. X-ray showed single foetus 24 weeks size, with loop drawn in and in transverse axis below the presenting part. (Fig. 4).

The patient was followed up regularly in the antenatal clinic. She delivered at 38 weeks normally, live male baby. The loop followed the afterbirth spontaneously. Patient voluntarily got her tubes tied.

Translocation of the Loop

(a) Asymptomatic Translocation Without Evidence of Perforation

Case 6

Mrs. N. B., 27 years, Bengali Hindu housewife from a middle class educated family, para 3 + 0, last childbirth one year 6 months; history of insertion of loop 4 months after her last childbirth. She experienced chronic vague discomfort in the left iliac fossa, worse during periods for last 6 months. She had an acute pain in the lower abdomen 6 months ago. The thread of the loop could not be seen during the routine check up.

Clinically the uterus was normal in size, retroverted, mobile. The loop could be felt through the left fornix separate from the uterus. Radiological examination showed loop high up, deviated and lying on the left sacroiliac joint (Fig. 5). Examination under anaesthesia confirmed the previous vaginal findings. On laparotomy the loop was found extraperitoneal, peeping out of the anterior reflection of the left broad ligament, almost completely extruded into the abdominal cavity. It was pulled out. Bilateral tubal ligation was done. The recovery was uneventful.

(b) Translocation With Symptoms**(i) Translocation With Adnexal Mass Formation****Case 7**

Mrs. C. A., 30 years, Bengali Hindu housewife of a low income group family, para 6 + 0, last childbirth one year. History of loop insertion 6 weeks after her last childbirth. Her principal complaints were chronic pain in the right iliac fossa, and dyspareunia. Patient gave history of severe pain during insertion of the loop and bleeding per vaginam after insertion.

On clinical examination the uterus was retroverted, with restricted mobility. There was a mass adherent to the uterus felt through the right fornix, tender during examination. Hysterogram showed the loop lying transversely outside the uterine cavity. Lateral X-ray also confirmed loop outside and posterior to the uterine cavity (Figs. 6, 7). On laparotomy the loop was lying transversely, intraperitoneal, outside the uterine cavity engulfing the fimbrial end of the right tube and had pierced through the right ovary. There was evidence of inflammation, forming a flimsy mass. The loop was resected out. Bilateral tubal ligation was done. The recovery was uneventful.

(ii) Incomplete Perforation, Only the Uterine Musculature Pierced**Case 8**

Mrs. N. C., 30 years, Bengali Hindu housewife of a middle class family, para 5 + 1, last childbirth 3 years. History of insertion of loop within 4 weeks of her last miscarriage. Patient was admitted

with a history of painful, prolonged, irregular, heavy periods for one year. Dyspareunia for the same duration. Clinically, the uterus was retroverted, slightly bulky with restricted mobility. Pouch of Douglas had localised tenderness. Lateral fornices were normal. No thread could be seen. The loop could not be felt with an uterine sound within the uterine cavity. X-ray of the lower abdomen and pelvis showed the loop crumpled up and in completely reversed axis. The tip of the broader end was pointing backwards (Fig. 8).

The loop could not be pulled out vaginally under general anaesthesia. Sharp curette was used but still the loop could not be removed. Laparotomy showed the uterus retroverted and through the posterior wall of the uterus the tip of the loop could be seen piercing. Hysterotomy was done and the loop was removed. The uterus was repaired and bilateral tubal ligation was done. The recovery was uneventful.

Discussion and Comments

Absence of the thread often passes unnoticed by the patient. When the thread cannot be located during follow-up, the patients are often unaware of the condition. Clinical findings and radiological aids confirm the absence or displacement of the loop. The commonest cause of absence of the thread is expulsion.

Table I illustrates the rate of expulsion studied at different centres in India.

TABLE I
Expulsion Rate of Lippes Loop Published by Different Authors in India

Authors	Puerperal	1st year	2nd year
Dawn et al		7.5	1.5
I. C. M. R.		4.9	
Malkani et al		8.9	
Mukherjee et al		5.5	
Pathak et al		9.52	
Roy		4.9	
Virkar 30mm		6.9	
27.5 mm		11.4	
Eden hospital, 100 cases, 30 mm		6.4	
Hingorani and Bai	13		
Sur and Roy Chaudhury Eden hospital	30	2.5	8.3

In recent years, the introduction of Lippes loop within four hours of the third stage of labour, is being much advocated, because the motivation is most prevalent during the stay in the hospital after childbirth. Early puerperal insertions are easy, with minimal introduction bleeding. It is thought to be an added advantage for early ovulators, and it does not hamper lactation. The expulsion was more common in early puerperal introduction, possibly due to the large cavity of the uterus as compared to the loop used, Roy Chaudhury, from study at the Eden hospital family planning clinic. The hypertonicity of the uterus during the puerperium could have been the contributing factor for spontaneous expulsion. Multiparous patulous os or mild cervical tear could be held responsible for not holding the loop in some cases. In non-puerperal women ill-fitting loops, partially sticking out of the uterine cavity have ended in expulsion. The case illustrated had puerperal insertion and the current observations showed that among non-puerperal uterus expulsion rate was more common with a retroverted uterus.

Indrawing of the thread, with change of axis of the loop, was fairly frequently met with, during routine follow-ups. A review of radiological survey of 42 cases of untraceable threads, in the Eden hospital Centre, after loop insertion showed that menorrhagia was the predominant symptom. Alteration in the axis of the

loop, buckling of the loop, indrawing of the loop thread occurred more often with a retroverted uterus.

Table II shows symptoms due to alteration of the axis in relation to the position of the uterus. Change of the axis with complete indrawing of the loop may be due to an ill-fitting loop within the uterine cavity. The loss of tone of the loop has been thought to be another probable cause of buckling. The principle of contraception with loop is still not very clear. In cases of loop with changed axis, the space made available might allow conception to occur. During 1969, at the Eden hospital centre follow ups, seven cases conceived with the Lippes loop in situ, the incidence being one per cent. The incidence of pregnancy with loop indrawn varies in the reported literatures. Lippe reported the incidence to be 2.9 per cent; Satherth *et al* (1964) 6.3 per cent; Tietze (1964) 4.5 per cent; Rutherford (1961) 8.2 per cent; I.C.M.R. (1962) 0.46 per cent; Virkar (1968) 2.2 per cent; Kishore *et al* (1967) 3 per cent; Sur and Roy Chaudhury (1968) 3.3 per cent. Four of the followed up cases of the series had spontaneous miscarriages within 24 weeks of gestation. Three carried to term having normal vaginal deliveries. Spontaneous expulsion of the loop with the after-births was the rule. One needed removal after miscarriage. In early diagnosed cases if the loop thread be accessible, an attempt to remove the loop without disturbing the

TABLE II
Showing Radiological Survey of 42 Cases of Untraceable Threads

Nature of period	No.	Position of the uterus		Position of the loop			
		A. V.	R. V.	Normal	Altered.	Distortion	Oblique
Normal	18	16	2	14	3	0	1
Excessive	24	10	14	6	6	4	8

pregnancy may be tried. Therapeutic abortion on psychological grounds is not usually agreed to, because foetal abnormality is not commonly seen in pregnancy with I.U.C.D.

Translocation of the loop by partial or complete perforation of the uterus may be asymptomatic, or present with symptoms of varying nature. On leading questions history of excessive pain during insertion, persistent discomfort for more than 72 hours of insertion, and insertion bleeding was often elicited. Clinically, the absence of the thread during follow ups and failure to locate it with the uterine sound needed further investigations. The loop was occasionally felt through the fornices or the pouch of Douglas, separate from the uterus. Adnexal masses adherent to the uterus incorporating the loop completely or partially were met with. Radiological study supported the findings. Straight x-ray of the pelvis showing the loop high up in transverse axis, or deviated much on either side of the pelvis, was very suggestive of asymptomatic perforation. The AP and lateral views of the pelvis, with an uterine sound in the uterine cavity, demonstrated the position of the translocated loop in relation to the position of the uterus. Hystero-grams confirmed extra-uterine translocation of loop. The incidence of translocation of Lippes loop as reported are, Burnhill and Birnberg (1967) 0.6 per 1,000, Tietze I per 2,500, Chakraverty (1968) I in 4,000, Mali (1968) I per 2,000 insertions. In the present study at the Eden Hospital follow ups, the incidence was 1.7 per thousand insertions. The injury to the uterine wall could have been caused during insertion by the loop or the introducer, which is a possibility more in soft puerperal uterus. The change of axis could precipitate translocation. Migration through

the fallopian tubes has been assumed in cases of asymptomatic translocation but remains any body's guess. Laparotomy was performed in all cases of the series though some advocate to leave them alone, till it causes any symptoms, Lehfeldt (1965), Burnhill (1965). Posterior colpotomy was not tried for its risks and hazards.

Summary and Conclusion

Eight cases illustrating the clinical problems of "the absence" of loop thread have been discussed. It has been shown that expulsion, distortion, and translocation of the I.U.D. lead to the absence of thread.

Expulsion was highest with insertions in immediate puerperium. In non-puerperal insertions expulsion occurred more often with retroverted uterus and patulous cervix.

Change of axis, and distortion of the Lippes loop often lead to menorrhagia, and was more frequent with retroverted uterus. In cases of change of axis with pregnancy the thread was drawn in irrespective whether the loop was below or above the presenting part.

In cases of translocation without symptoms, complete perforation was the rule. Symptoms were produced with incomplete perforations or with adnexal masses. In all cases laparotomy should be performed.

Acknowledgement

The authors are thankful to Dr. D. Rayamahasaya, Principal and Superintendent Medical College Hospital, Calcutta, for allowing to publish hospital records, and grateful to Prof. K. N. Mitra, Director and Head of the Department of Obstetrics and Gynaecology, Eden Hospital, Calcutta, for his constant encouragement.

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See Figs. on Art Paper IV-V