

INTRAPERITONEAL DISPLACEMENT OF LIPPES' LOOP

(Report of three Cases)

by

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Introduction

The use of Lippes' loop as intra-uterine device for contraception has been in use in this part of the country since January 1965. In the State of Gujarat about 50,000 insertions of loops were done in the last fourteen months. The following cases are reported as an unusual complication of this procedure. The recognition of this complication in the world literature has been stressed by Max A. Wan (1966), Hall (1964), Mira Mazumdar (1966), James P. Clarke (1966), Nanda S. P. (1966) and Col. Khan Z. (1966).

Case 1

Mrs. S. J., aged 35 yrs., 7th para, all 6 living, had loop insertion done on 23-12-65 during the fifth week of her last puerperium. The last pregnancy, labour and puerperium were uncomplicated. The examination prior to insertion revealed a normal sized anteverted uterus with no

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other abnormalities. On 5-5-'66 the patient visited the clinic for removal of the loop under some misbelief. On examination of the pelvis no abnormality was detected. On speculum examination nylon filament was not seen. The removal of the loop was attempted with Graffenberg ring extractor. Two attempts were made but they were unsuccessful. An x-ray examination of the abdomen was done. It showed the loop as end on appearance and situated towards the right lateral pelvic wall and away from the midline. This appearance led to the suspicion of the loop being in the peritoneal cavity.

On 11-5-'66, patient was admitted for an exploratory laparotomy under spinal anaesthesia. On exploration, the loop was seen embedded in the omentum in the hypogastric region. The nylon thread had flimsy fibrous adhesions with the anterior wall of the uterine surface; the tubes and ovaries were normal. The anterior wall of uterus in its lower half showed marked depression and thinning of the myometrium. The adhesions were severed, the loop was freed and removed. The uterine rent was closed in layers. She made an uneventful recovery in the postoperative period.

Case 2

Mrs. R. R., aged 30 years, 4th para, all three living, had a loop insertion at a Centre eleven months ago, in November 1965. She had no symptoms of any kind for 7 months till May 1966. She then started

bleeding per vaginam which was continuous and stopped after some tablets; she then went to the doctor of the same Clinic for removal of the loop. Many attempts were made to remove the loop, but they were unsuccessful. Patient was then referred to S. S. G. Hospital, Baroda, on 12-10-'66, with a plane x-ray of the abdomen (photograph 2) and hysterosalpingography (Fig. 3).

The x-ray showed the loop in the transverse plane near the right sacro-iliac joint. This changing of the axis was highly suggestive of intraperitoneal displacement of the loop. Photograph 3, except for the spillage of the radio-opaque dye into the peritoneal cavity, did not give any special information.

Her general and systemic examinations revealed no abnormality. On pelvic examination the cervix was downwards and backwards, uterus anteverted and slightly bulky, fornices were clear and no filaments were felt. On speculum examination nylon filaments were not seen.

The cervix was dilated up to number 12 (Hegar) and the uterine cavity was explored with sinus forceps for the presence of loop. As it was not felt it was decided to proceed with exploratory laparotomy.

The abdomen was opened by subumbilical midline incision. The loop was not visualised as the coils of intestine were covering it. A hand was introduced and the loop was palpated posterior to the uterus, nearer the right sacro-iliac articulation. Most of the portion of the loop was free. The nylon thread was attached with flimsy adhesions to the parietal peritoneum on the lateral wall. There was no opening seen on the uterine surface or its appendages. Both ovaries were normal. The loop was removed with ease. The viscera on inspection revealed no abnormality. Abdomen was closed in layers. She made an uneventful postoperative recovery. She was followed 2½ months later, her menstruation was normal. The abdominal scar showed moderate keloid formation.

Case 3

Mrs. S. S., 30 years old, 5th para, all four living, had her last delivery 3 years ago.

She was referred for menorrhagia of 7 months' duration following the introduction of Lippes' loop 8 months ago. The introduction of the loop was done in one of the family planning camps at a peripheral centre. In addition to menorrhagia she also complained of lower abdominal pain which was colicky in nature.

The general and systemic examination revealed no abnormality. Her haemoglobin was 10 gms%, blood pressure 110/70 mm. of Hg. Pelvic examination revealed cervix downwards and forwards smooth, firm, mobile; uterus was retroverted, easily corrected, normal in size, smooth, firm, mobile and non-tender. Left fornix was clear. Palpating through the right fornix spirals of the Lippes' loop were felt. Speculum examination showed no filaments in the vagina. To confirm the intraperitoneal displacement an x-ray of the lower abdomen was taken after putting a sound in the uterine cavity as shown in photographs 4 and 5.

The x-ray confirmed the intraperitoneal displacement. In both the plates the spirals were seen widely open and loop seen nearer the right sacro-iliae joint. In the lateral plate also in relation to the sound, full view of the loop was seen which was unlikely if it was intra-uterine. In the same plate the two shadows were seen in different planes.

Patient was admitted for an exploratory laparotomy on 15-10-'66 under spinal anaesthesia. Pelvic examination was made, previous findings including the palpation of the loop through the fornices was confirmed. As she had menorrhagia, dilatation and curettage was done.

Abdomen was opened by a subumbilical midline incision. On packing the intestines the loop was seen on the right lateral pelvic wall nearer the right sacro-iliac joint with its broad end above and narrow end below. The nylon thread had flimsy adhesions with the posterior leaf of the broad ligament. It was removed easily. The uterus and its appendages did not reveal any thinning or scarring. Ovaries were normal. Bowels were apparently normal. The abdomen was closed in layers. The post-operative period was uneventful.

Discussion

The above cases reflect the possible mechanisms of the intraperitoneal displacement of the Lippes' loop. Hall (1966), Maxawan (1966), Mazumdar (1966), James P. Clarke (1966), Nanda (1966), Lehfeldt (1965) & Khan (1964) have mentioned the causes of displacement as perforation of the uterus. The perforation results either during insertion, or unsuccessful attempts at removal of loop, as also perforation by the loop itself.

In case one, in view of healed scar on the anterior surface of the uterus, the perforation must have resulted during insertion of the loop. This is further supported by snapping of the nylon thread at the time of attempted removal.

In the other two cases the mechanism of peritoneal displacement appears to be other than those described so far. Careful inspection of the uterus and adnexae in both the cases failed to reveal any scar suggesting past perforation. There is a possibility that the loop itself might have pierced the uterine wall and got extruded into the peritoneal cavity. Such an opening can heal without leaving a detectable scar. In personal communication, it is suggested by Shirodkar that the cranial end of the loop can find its way into the cornual opening of the fallopian tube, and gradually by reverse peristalsis the entire loop may be expelled into the peritoneal cavity. In support of this explanation, these two cases offer few interesting facts. Both these cases complained of severe lower abdominal pain which compelled them

to seek medical advice. This pain was colicky in nature. These facts indicate possible occurrence of reverse peristalsis in them.

The findings at laparotomy suggest that the loops were having their cranial ends uppermost in the peritoneal cavity. As the process of intraperitoneal expulsion is likely to be prolonged and gradual, it gives ample time for the loop to occupy the position described above at the time of laparotomy. The uppermost spirals of these loops had flimsy adhesions fixing them to the lateral pelvic wall. On the contrary if the process of expulsion was sudden and rapid, one would expect the loop lying free in the pouch of Douglas with its cranial end lowermost.

The diagnosis of intraperitoneal displacement is to be suspected if any difficulty is experienced during insertion, absence of thread in the cervical canal on speculum examination and inability to remove the loop when thread is not seen. X-ray examination of the abdomen is useful for diagnosis.

The use of hysterosalpingography with water soluble dye makes the view of the loop difficult due to rapid intraperitoneal spillage. The study of x-rays with uterine sound in the uterine cavity, anteroposterior and lateral view, shows the shadows of the uterine sound and the loop in different planes indicating their different locations in the pelvis, photos 4 and 5. Another appearance on x-ray which suggests intraperitoneal displacement is undue widening of the loop spirals and change of its axis. The last mentioned appearances should be evaluated in relation to the size of the

uterine cavity and its lateral displacement. H. Lehfeldt (1965) also believes that even x-ray diagnosis of intraperitoneal displacement of the loop may be difficult. H. Lehfeldt (1965) further believes that intra-uterine loop may be left in peritoneal cavity if patient is asymptomatic. Reinsertion of another loop in the uterine cavity is advocated if further family planning is desired. The opinion of the population of the family planning clinic at this hospital, in spite of persuasion and reassurances, is in favour of removal of such displaced loops and subsequent resort to other contraceptive measures.

The removal of the loop can be done by an exploratory laparotomy. The findings of our first case definitely favour an abdominal approach. In this case the loop was entangled with the omentum, and its removal by colpotomy would not allow inspection of the uterus and its adnexae and its relation to intestinal coils. Therefore, it is much safer to remove the loop per abdomen in such a case.

Posterior colpotomy has an advantage of no visible scar. But an entangled loop may be difficult to remove through it. It may be also difficult to prevent bowel injury. However, a loop low in the pouch of Douglas can be removed by posterior colpotomy with ease and safety.

Summary

Three cases of intraperitoneal dis-

placement of Lippes' loop are reported. The difficulties in diagnosis are discussed. The possible modes of this displacement are suggested. The various methods of removal are discussed.

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Figs. on Art Paper V-VI