

TUBAL PREGNANCY ASSOCIATED WITH I.U.C.D. A REPORT OF THREE CASES

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The usefulness of Intrauterine contraceptive device—I.U.C.D. as an effective means of population control has gained wide acceptance particularly in developing countries in the East. Up to September, 1964, over 50,667 I.U.C.D. have been inserted in Korea, 24,742 in Taiwan, 4,800 in Pakistan and 4,048 in Hong Kong (Berelson, 1964). Apart from 6 cases of tubal pregnancy reported recently from Hong Kong (Ramkissoon-Chen & Kong, 1966), in patients wearing I.U.C.D., no such occurrence has been reported from countries elsewhere, not even from those using I.U.C.D. on a large scale.

In Singapore, three cases of tubal pregnancy in women wearing I.U.C.D. have been encountered over a 12-month period at the Kandang Kerbau Hospital, the only public hospital offering obstetric and gynaecological services in the Republic. Intrauterine contraceptive devices have been available in Singapore since 1965, but large scale insertions did not begin until October 1965. Up to the end of June 1966, approximately 14,000 patients have been fitted with Lippes loop device.

All cases described below possess adequate documentation from the time of insertion to subsequent follow-up.

Case 1

L.S. (T2283), aged 33, para 7 had a size 2 Lippes loop inserted on 12th November 1965, 28 days after a spontaneous complete abortion of a 14th week conceptus. Normal menstruation resumed 6 weeks after the insertion. She was seen monthly and was remarkably free from symptoms. Menstruation occurred punctually every 30 days, the last normal period began on 26th March 1966. In May 1966 she returned with a history of having missed her period in April and of spotting of blood per vaginam for 1 week. There was no fever or abdominal pain. Examination revealed slight bleeding coming from the cervical os, the nylon tail of the Lippes loop was visualised. The uterus was doubtfully enlarged, there was no pelvic tenderness, and no pelvic mass could be felt. Pregnancy test using the immunological technique was reported to be

positive. She was regarded as a case of threatened abortion and was sent home to rest in bed. Ten days later she was admitted as an emergency, with a history of acute onset of severe lower abdominal pain 4 hours previously associated with strangury and tenesmus. The vaginal bleeding continued off and on since her last visit. On examination, she was pale but not in shock. Guarding and tenderness were present at the suprapubic region and both iliac fossae, being most marked on the left side. Vaginal examination showed some bleeding coming through the cervical os and the loop was in position. Marked excitation pain of the cervix was present and a tender mass was felt in the Pouch of Douglas. At laparotomy, about 50 mls. of blood were found in the pelvis. The left tube was enlarged and distended with blood. The site of rupture was located at the junction of outer and middle third of the left tube. The right tube and both ovaries were normal. The uterus was slightly enlarged. Left salpingectomy and right tubal ligation were performed.

The Lippes loop was removed per vaginam after the operation. Subsequent histological examination confirmed the diagnosis of ruptured tubal pregnancy. She made an uneventful recovery.

Case 2

C.G.H. (T878), aged 32, para 6, had a size 3 Lippes loop inserted on 5th March 1966. This was followed by severe bleeding the next day and slight spotting for 2 more days. Normal menstruation occurred on 19th March 1966 and 25th April 1966. Irregular vaginal bleeding then began on 26th May 1966 and continued off and on for the next 17 days before she returned for consultation. Vaginal examination did not detect any abnormality. The Lippes loop was removed and a smaller one substituted immediately. Two days later she returned reporting no improvement in the vaginal bleeding, whereupon, the I.U.C.D. was removed. Eleven days after the removal, she was admitted as an emergency, with a history of acute onset of severe lower abdominal pain 9 hours previously, asso-

ciated with vomiting and dizziness. Vaginal bleeding had continued off and on since the last visit. On examination, she was very pale and was in a state of peripheral vascular collapse. The abdomen was distended. Marked rigidity and tenderness were demonstrated in the lower abdomen, and shifting dullness was also present. Vaginal examination showed marked excitation pain at the cervix and all fornices. At laparotomy over 1,000 mls. of blood were removed from the peritoneal cavity. The tubal pregnancy was found at the left ampullary portion of the tube. The right tube and both ovaries were normal. Left salpingectomy and right tubal ligation were performed. Subsequent histological examination of the removed fallopian tube confirmed the diagnosis of ruptured tubal pregnancy. She made an uneventful recovery.

Case 3

M.K. (T3100), aged 38, para 4, had a Lippes loop inserted in June 1965. She was well and menstruated regularly once every 30 days but heavier than usual. Her last menstrual period began on 18th August 1966. On 27th September 1966 she consulted her doctor on account of irregular vaginal bleeding and discharge associated with low grade fever for one week. Pelvic infection due to I.U.C.D. was suspected. The I.U.C.D. was removed and antibiotic therapy instituted. For the next one week irregular vaginal bleeding and intermittent low grade fever persisted. On 4th October 1966, 14 days after the onset of first symptom, she was referred for hospital admission with a history of acute onset of severe abdominal pain localised in the left iliac fossa associated with difficulty in micturition. Examination revealed a pale, obese woman with a blood pressure of 158/88 mm. Hg. Her pulse was 130/min. and her temperature normal. An area of deep tenderness and rebound tenderness was elicited in the left iliac fossa, there was no shifting dullness. Vaginal examination showed some bleeding coming from the cervical os, the uterus was normal size, anteverted and pushed upwards and forwards by a tender cystic mass about 3 cm. × 2 cm. in the pouch of Douglas. All fornices were tender. At laparotomy, about 100 mls. of blood was found in the peritoneal cavity. A left ruptured tubal pregnancy surrounded by blood clots was found in the left side of pouch of Douglas. The right tube and both ovaries were normal. Left salpingectomy and right tubal ligation was performed. She recovered uneventfully. The tubal pregnancy was subsequently confirmed histologically.

COMMENTS

Tubal pregnancy in the presence of an I.U.C.D. appears to be rare. Hall and Stone (1962), encountered only one case in their series of 648 women-years of exposure, while Halton, et al, Torri and Maeda, Ishihama, and Rutherford, Tietze, 1962, with an aggregate of 20, 231 cases apparently did not find a single instance of tubal pregnancy. Tietze 1962, in a statistical analysis of well documented studies involving 2,960 women-years, expected between 24 and 36 cases of tubal pregnancies, he found only one case in this group.

The mechanism of action of an I.U.C.D. in the human uterus is still largely a matter of speculation. Experiments carried out in animals produced a variety of different results. This can only mean that every species of animals responds to an I.U.C.D. in utero differently. Thus, for example, in the water buffalo the I.U.C.D. seems to interfere with ovulation and prevents corpus luteum formation (Buch et al, 1964). The same is observed in cows, whereas in the ewe sperm migration seems to be impaired (Hawk, 1965). In rats Doyle and Margolis (1964), have found that intrauterine foreign body seems to prevent conception by interfering with implantation in the uterus. More recently Mastroianni and Rosseau (1965) have demonstrated in the macaque monkey that the presence of an I.U.C.D. was associated with rapid discharge of ova from the tube into the uterus, thus preventing fertilization of the ovum in the tube. Noyes et al (1965) however was able to demonstrate conclusively that in the human being fertilization takes place in the tube despite the presence of an intrauterine contraceptive device. They were able to recover a fertilized ovum from a human oviduct with an I.U.C.D. in utero. The Three examples of tubal pregnancy described above together with 6 others reported from Hong Kong seem to indicate that even in the presence of an I.U.C.D. fertilization can and does occur in the tube, and that I.U.C.D. may prevent an intrauterine pregnancy but not a tubal or indeed any extra-uterine pregnancy.

Early diagnosis of tubal pregnancy can be most difficult even in the most experienced hands. Greenhill (1955) states that the diagnosis is rarely made before the tube ruptures or haemorrhage takes place. The presence of I.U.C.D. in utero has added to the diagnostic difficulty in tubal pregnancy. Irregular vaginal bleeding and lower abdomen cramps are so common following I.U.C.D. insertion that they are apt to con-

fuse the clinical picture of tubal pregnancy in the presence of an I.U.C.D., thus resulting in delay in the institution of proper treatment.

SUMMARY

Three cases of tubal pregnancy associated with I.U.C.D. in utero have been described. Recent thoughts on the mechanism of action of I.U.C.D. have been briefly reviewed. Difficulty in early diagnosis of tubal pregnancy associated with I.U.C.D. has been reiterated.

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