

# PREGNANCY OCCURRING IN THE PRESENCE OF AN INTRAUTERINE CONTRACEPTIVE DEVICE

## A REPORT OF TWO CASES.

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Intrauterine appliances of various descriptions have been used for contraception over the past five decades. The most famous one bears the name of a German physician, Grafenberg of Berlin who successively used silkworm gut, silver and gold to fashion his so-called intrauterine "rings".

These pioneer efforts suffered serious setbacks due to the occurrence of a number of unwanted pregnancies and what was far worse, cases of severe pelvic inflammation. Intrauterine contraceptive devices thus fell into disrepute, so much so that the general attitude among respectable gynaecologists towards them became one of outright rejection and condemnation even though few could actually speak from experience.

In recent years there has been widespread revival of interest in the use of intrauterine contraceptive devices as a means of population control. The old opposition and prejudice has largely died down. A fresh and unbiased scientific approach is being adopted by investigators in many countries working with contraptions of various designs and materials. The use of new and non-reactive plastic materials holds great promise for the future. Already, favourable results have been reported by Oppenheimer (1959) Ishihama (1959) and Hall and Stone (1962). Judging from these reports, the recent intrauterine devices are safe for the wearer and carry a failure rate of under three pregnancies per 100 woman-years of exposure.

Despite 50 years of experimentation and usage, the mode of action of intrauterine foreign bodies in preventing pregnancy remains obscure. From the work of Doyle and Margolis (1963) on female rats, it appears that sperm ascent and fertilization are not interfered with. A popular concept by investigators such as Grafenberg (1931) and Ota (1951) is that intrauterine foreign bodies exert a local mechanical action on the uterine decidua, preventing

successful implantation. A chemical barrier to implantation due to altered pH of the uterine mucosa is postulated by Retschmenschky (quoted by Haire, 1931) while Pincus (1958) believes that hormonal disturbances may be responsible for preventing conception.

The two cases presented here may be classed as failures following the use of intrauterine contraceptive devices.

### CASE 1.

K.A.P., a 29 year old Chinese, gravida, 5, para 4, was seen at the antenatal clinic of the University Unit at Kandang Kerbau Hospital, Singapore, on 2nd January, 1963, in the 31st week of gestation. She gave a history of excessive abdominal size, dyspnoea, and oedema of the ankles. Examination revealed the presence of two foetuses and some degree of hydramnios. Twin pregnancy was confirmed by radiological examination. The blood pressure was 112/76 mm. mercury and there was no albumin in the urine. The patient was admitted into hospital for rest, with a view to prolonging her pregnancy.

On 12th January, 1963, in the 33rd week of gestation, the patient went into labour spontaneously. At the onset of labour only one foetal heart could be heard. Eleven hours later, the first twin was delivered. It was a fresh stillborn male infant weighing 4 lbs. The second twin was delivered as a breech five minutes later. It was a healthy male infant, weighing 3 lbs. 2 ozs. The third stage was normal. The placentae were monochorionic with no retro-placental haemorrhage or other abnormality.

Vaginal examination after delivery revealed the presence of a polyethylene intrauterine contraceptive ring measuring 2.2 cm. in diameter (Fig. 1). On interrogation of the patient, she admitted that a contraceptive device had been inserted by a practitioner in 1961. The puer-

perium was uneventful and the patient returned home on 20th January, 1963, eight days after delivery.

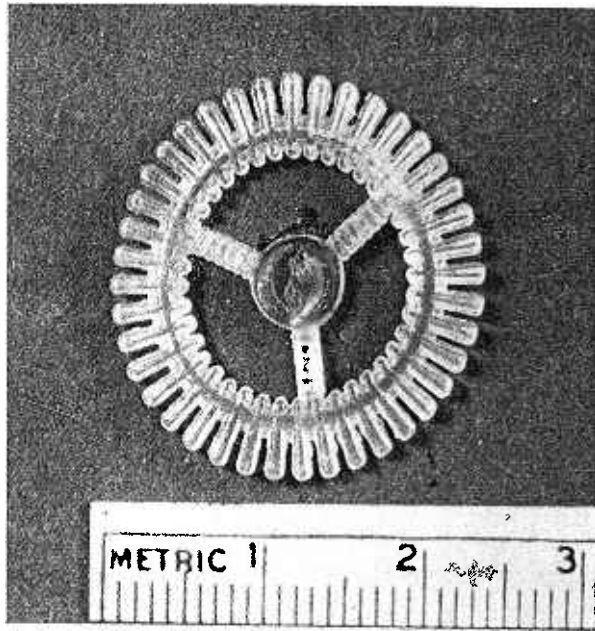


Fig. 1.

#### CASE 2.

C.S.K., a 38 year old Chinese, gravida 8, para 7, attended the gynaecological outpatient clinic at Kandang Kerbau Hospital, on 14th June, 1963. She gave a history of nine weeks' amenorrhoea with slight vaginal spotting for the past four days. The first day of her last menstrual period was stated to be 24th February, 1963. She denied any attempt at interrupting her pregnancy.

Physical examination revealed no abnormality in the various systems. The uterus was found to be enlarged to the size of a fourteen-week pregnancy. The cervix was soft and products of conception were felt protruding through the os. No abnormality was detected in the appendages.

The patient was admitted for evacuation of the uterus. This was carried out on the same day and a molar pregnancy was evacuated. No foetus was found. In the course of curettage, a flat polyethylene intrauterine contraceptive ring measuring 2.2 cm. in diameter was removed from the uterine cavity. On questioning later, the patient admitted that the ring had been inserted by a practitioner in 1961. Pathological examination of the aborted mate-

rial confirmed the diagnosis of hydatidiform mole.

#### COMMENTS

Like all other contraceptive methods, the method of contraception by means of intrauterine foreign bodies has its share of failures. In the two cases presented, pregnancy occurred despite the presence of intrauterine foreign bodies.

In the first case presented, an intrauterine ring was found complicating a uniovular twin pregnancy in which the first twin was fresh stillborn. One cannot state whether or not there is any aetiological connection between the intrauterine ring and the foetal death. However, if the ring were to have caused any harm, that would more probably have occurred in the earlier stages of pregnancy. In the second case, a similar ring complicated a molar pregnancy. Until more of such cases are seen and studied, it is impossible at present to draw any conclusion from this association of intrauterine ring with molar pregnancy.

#### SUMMARY

Two cases of pregnancy in the presence of intrauterine contraceptive rings are reported. Reference is made to the recent revival of interest in intrauterine contraceptive devices made of biologically inert synthetic materials. Initial reports seem to indicate that an effective and generally acceptable device may soon be available.

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