

A 6 YEAR REVIEW OF ECTOPIC PREGNANCY

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SYNOPSIS

In a 6 year review of 106 cases of ectopic pregnancy in 'A' Unit of the Kandang Kerbau Maternity Hospital, Singapore, between 1972 and 1977, the incidence of ectopic pregnancy was found to be 1 in 340 deliveries. There appears to be an increase in incidence compared to an earlier series in the same hospital.

Of the 106 cases, 9 were repeat ectopic pregnancy. 16 cases had a history of infertility. 19 cases had associated pelvic inflammatory disease. 5 cases had an intra-uterine contraceptive device in situ. 4 cases occurred in the proximal stump after salpingectomy or cauterly of the fallopian tube.

There was no mortality and morbidity was minimal. There were 36 subsequent conceptions with 2 foetal wastage. The possibility of improving subsequent fertility is discussed.

INTRODUCTION

Ectopic pregnancy is one of the commonest gynaecological emergencies and its clinical presentation has been well documented. It is the purpose of this paper to compare the incidence and to analyse some of the other aspects of this common condition especially with regard to patient's subsequent obstetric future.

MATERIALS AND METHODS

Between the year 1972 to 1977 in 'A' Unit of the Kandang Kerbau Hospital, Singapore, 167 cases were diagnosed as ectopic pregnancy but only 120 case records could be traced. Of these, 106 cases were confirmed at laparotomy and subsequent histology. The remaining 14 cases (11.6%) were found to be as follows:-

Leaking luteal cysts	6 cases
Pelvic inflammatory disease	2 cases
Endometriotic systs	3 cases
Torsion of fimbrial cysts	1 case
Haemato-salpinx	1 case
Torsion of pedunculated fibroid	1 case

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Bobrow and Bell (1962) in a 16 year survey of 905 cases of ectopic pregnancy found a similar incidence of 11.2% not confirmed by laparotomy.

RESULTS

Incidence

106 confirmed cases were available for study from 1972 to 1977. However, 47 case records could not be traced. Assuming that 11.6% was misdiagnosed, this would add a further 42 cases to the 106 confirmed cases giving a total of 148 cases. During the same period, there were 50,345 deliveries, thus giving an incidence of ectopic pregnancy as 1 in 340 deliveries. In an earlier series (Vengadasalam 1970) in the same hospital, the incidence was found to be 1 in 533 deliveries. There appears to be an increased incidence over the years.

Table 1

Age incidence of ectopic pregnancy

Age in Years	No. of Cases	%
20 — 25	17	16
26 — 30	29	27.4
31 — 35	31	29.2
36 — 40	25	23.6
41 — 45	4	3.8
Total	106	100

The majority of cases occurred in those between the age of 31 to 35 years, 56.6% being over the age of 30. This figure is almost the same as in the earlier series by Vengadasalam (1970). Other series (Beachem et al 1956, Schoen 1975) reported that women with ectopic pregnancy were in their thirties.

Fertility and Parity

16 cases had a history of infertility and were attending infertility clinic. In general, it has been reported that the ectopic pregnancy rate is 7 times higher among those who attend the infertility clinic (Bobrow and Bell 1962). 21.7% of the cases were primigravida, while 78.3% were multipara.

At the time of the ectopic pregnancy, 5 patients (4.7%) had an intra-uterine contraceptive device (I.U.C.D.) in-situ. 2 had Lippes Loops and the other 3 had Ota Rings. When a woman with an I.U.C.D. becomes pregnant, she runs a high risk of spontaneous abortion and that 1 in 5 of the pregnancies will be an ectopic. (B.M.J. 1975).

Management

68 cases had obvious signs and symptoms of ectopic pregnancy and laparotomy was done without any preliminary diagnostic procedure. There was some doubt in 38 cases, 3 had colpotomy and 35 had laparoscopy before laparotomy. Laparoscopy is superior to colpotomy as a diagnostic procedure as it enables the surgeon to visualize the pelvic organs.

Operative findings

Side: 57 cases (53.8%) was found on the right while 49 cases (46.2%) was on the left side.

This is in keeping with the finding of most other authors. Ectopic pregnancy is more commonly found on the right side probably due to its proximity to the appendix. (Jeffcoate 1972).

Table 2:

Site of ectopic pregnancy

Site	No. of Cases	%
"Tubal"	53	50
Ampulla	36	34
Isthmus	4	3.7
Fimbria	3	2.6
Cornu	9	8.8
Broad ligament	1	0.9
Total	106	100

96 cases (90.6%) were found in the fallopian tube. Most of the case records did not state the exact site of the ectopic pregnancy in the tube, where this was stated, the commonest site in the tube was at the ampulla.

At time of laparotomy, 92 cases (87.0%) were found to have ruptured, while 10 cases (9.3%) were leaking. 4 cases (3.7%) were found to have tubal abortion. Webster et al (1965) cited 11.5% of unruptured ectopic pregnancy at the time of laparotomy. (18%) 19 cases had evidence of pelvic inflammatory disease.

Association with previous surgery

It is interesting to note that 9 cases had recurrent ectopic pregnancy in the contralateral tube. 2 cases occurred in the proximal stump after post-partum sterilisation by the modified Pomeroy method. 1 case occurred after laparoscopic cauterý of the fallopian tube. 1 case occurred in the proximal stump after a salpingo-oophorectomy for a tubo-ovarian mass. 1 case had previous appendicectomy.

Table 3. Operative procedures

Methods	No. of Cases	%
Salpingectomy	77	72.6
Salpingo-oophorectomy	20	18.8
Excision of cornu	6	5.7
Total hysterectomy	2	1.9
Fimbriectomy	1	1.0
Total	106	100

The commonest operative procedure was salpingectomy which was performed in 77 cases (72.6%). Hysterectomy was performed in 2 cases because of associated severe chronic pelvic inflammatory disease.

Post operative follow up

There was no mortality and the morbidity was minimum, most of the patients were discharged on the 7th post operative day after removal of the stitches. Vengadasalam (1970) also reported no mortality in his series. In other series, the mortality rate varies from 0.14% (Webster et al 1965) to 2.2%. (Bobrow and Bell 1962).

Subsequent fertility after an ectopic pregnancy

Out of 106 cases reviewed from 1972 — 1977:—

40 were ligated at the time of laparotomy for ectopic pregnancy.

2 had abdominal hysterectomy done

9 were recurrent ectopic pregnancy, the repeat ectopic pregnancy was in the contralateral tube and so were sterilized at the time of the operation.

Of the remaining 55 cases who could conceive the following results were obtained by personal interview or home visits by the medical social workers. The follow up was for a period of at least a year from the time of operation. All 55 cases from 1972 — 1977 were therefore assessed.

Results:

Salpingectomy versus salpingo-oophorectomy

Of the 55 cases, 35 had salpingectomy and 20 had salpingo-oophorectomy. 28 patients conceived to give a total of 36 pregnancies. This gives a conception rate of 50.9% after an ectopic pregnancy. Schoen & Novak (1975) cited an incidence of 32.1%.

Out of 35 cases who had salpingectomy, 26 conceived, thus giving a conception rate of 74% after a salpingectomy for an ectopic pregnancy. Of the 20 cases who had salpingo-oophorectomy, only 2 conceived giving a conception rate of 10%. This does not substantiate the statement made by Jeffcoate (1955) that oophorectomy performed at the time of salpingectomy would ensure a higher fertility rate than salpingectomy alone.

Franklin & Zeiderman (1973) found that the conception rate was 38.6% for those after salpingo-oophorectomy as compared with 38% in those following salpingectomy alone, both being about the same.

Obstetric performance after an ectopic pregnancy

Of the 36 conceptions, (25 normal vaginal deliveries
there were 28 live births (2 Caesarean Section for
(cephalo-pelvic
(disproportion
(1 forceps for prolong
(second stage,

1 macerated still-birth, 1 spontaneous abortion, 4 termination of pregnancy and 2 currently pregnant at 10 — 12 weeks' gestation at the time of interview.

The fetal wastage was 5.5% (2 out of 36 cases).

It is interesting to analyse the remaining ones that were infertile.

16 had pelvic inflammatory disease

6 were infertile. The remaining tube was patent.

No known cause.

2 were single and had not subsequently conceived*

1 had pelvic endometriosis

1 on oral contraceptives

1 was menopause by the time of interview.

Repeat ectopic pregnancy

There were 9 cases in this series, giving an incidence of 8.5%. (Vengadasalam 1970, 10%, Schoen 1975, 11.2%). The duration interval between the two ectopic pregnancies vary from 4 months to 16 years, with an average of about 3.8 years. Schoen (1975) reported an average interval of 2.83 years.

DISCUSSION

The incidence of 1 in 340 deliveries of ectopic pregnancy in this study, does not reflect the true incidence of the condition in Singapore as a whole. This is because many other cases of ectopic pregnancy were admitted to other surgical units in other hospitals as 'acute abdomen'. They were dealt with by the surgeons without referral to the gynaecologist. This is the reason why the incidence appears to be much lower when compared to other series which vary from 1 in 64.2 (Bobrow and Bell 1962) to 1 in 241 (Stromme et al 1962).

There has been an apparent increase in the incidence of ectopic pregnancy over the years in Kandang Kerbau Maternity Hospital from 1 in 533 deliveries (Vengadasalam 1970) to 1 in 340 in the present series. The liberalisation of legal abortion since 1972 may be a contributing factor. However in analysing the cases only 3 (2.8%) had a history of previous termination of pregnancy, this is therefore not an important factor in the increased incidence. Various other studies (Bobrow and Bell 1962, Stromme et al 1962, Webster et al 1965) have also shown an increase in the incidence of ectopic pregnancy. According to Schoen and Nowak, (1975) this may be due to the indiscriminate use of antibiotics for genital infections, increased incidence of venereal disease and promiscuity.

Subsequent fertility after an ectopic pregnancy is 50.9%, that following a repeat ectopic pregnancy was nil in this series. This is because by the time laparotomy was performed the tube had already ruptured and was beyond salvage. Contrary to the statement by Jeffcoate (1955) salpingo-oophorectomy did not improve subsequent fertility. In this study, the conception rate after salpingo-oophorectomy was 10% while after salpingectomy alone was 74%.

Stromme et al (1962) employed nonablative methods in 17 cases resulting in 18 subsequent viable births in 10 patients. They advocated early diagnosis and treatment, preferably before the tube ruptured. Where possible the following conservative procedures could be performed.

1. milking out the tubal abortion and haemostasis only
2. salpingotomy, splitting the tube longitudinally over the gestation, shelling it out and closing the incision with 4' 0' chromic cutgut.

In the final analysis, the successful results of conservative operations for ectopic pregnancy must be assessed on the basis of subsequent viable births. By earlier diagnosis and more conservative surgery, the obstetric future of the patient could be improved.

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