ECTOPIC PREGNANCY

(Review of 119 Consecutive Cases)

by

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Ectopic pregnancy is one of the few acute abdominal conditions met with in gynaecological practice and it is not very uncommon. Due to its varied manifestations, it may simulate many pathological conditions in the pelvis and correct diagnosis, at times, may be difficult.

This is an analysis, studied from the case records, of the clinical features, diagnosis and treatment of cases of ectopic pregnancy that were admitted in Chittaranjan Seva Sadan from 1st January 1961 through 31st December 1966.

Materials

During the six years under review, there had been in all 119 cases of ectopic pregnancy, of which 117 were confirmed surgically and the remaining 2, at postmortem. This series includes 4 cases (3.36 per cent) who had been operated previously for ectopic pregnancy and 1 case of combined intra and extra-uterine pregnancy, reported elsewhere (Ghose, 1967).

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Incidence

The incidence of ectopic pregnancy is worked out as 1 in 370.37 viable confinements, including still-births or 0.27 per cent and 1 in 438.45 pregnancies including abortions or 0.22 per cent. Different authors and investigators have reported widely varying incidence using different criteria. Hence it is difficult to compare one with another. It is stated as 1 in 300-1000 deliveries after 28th week by Jeffcoate (1962). One ectopic pregnancy occurs according to Peel (1963) in every 300 pregnancies and as reported by Eastman (1956), in 274 pregnancies in New York Lying-in Hospital.

Age

The youngest patient in the series was 19 years, oldest being 43.

From Table I it is seen that nearly two-thirds of the cases belonged to the age groups, 21-25 and 26-30.

TABLE I

Age incidence

Age in years.	No. of cases	Per cent
Upto 20	10	8.41
21 to 25	36	30.25
26 to 30	34	28.57
31 to 36 ..	27	22.69
36 to 40	8	6.72
Above 40	4	3.36

TABLE II

Symptoms

	No. of cases	Per cent
Amenorrhoea	88	73.69
Abdominal pain ..	114	95.97
Vaginal bleeding ..	108	90.75
Fainting attack ..	38	31.33
Vomiting	22	18.4
Referred pain ..	25	21.01

Parity

Thirty-five, i.e. 29.4 per cent of the cases were nulliparous. Twenty-two, i.e. 18.49 per cent had one and 62, i.e. 52.11 per cent, more than one viable confinement. Highest parity recorded was 13. Nearly half of the cases. 47.89 per cent, occurred in nulli and uniparae.

Long Period of Infertility

Infertility over 5 years was present in 51 cases (42.85 per cent). Webster and associates (1965) have observed infertility of 5 years or more in 22.5 per cent and Soisson and Moran (1959), for 3 years or more in 16 per cent of the cases only.

Predisposing Factors

Histological evidence of adnexal inflammation was obtained on 34 occasions (28.56 per cent) after operation. Only 6 cases including those of repeat ectopic, had previous laparotomy. In 1 case, a long tube has been recorded as the predisposing factor. In 3 cases, ovarian tumours were present on the affected side.

Symptoms

Eastman (1956) has observed that history of amenorrhoea is not obtained in a quarter of the cases. According to Peel (1963) amenorrhoea is present in 70 per cent of the cases, which also agrees with our observation (Table II). As also can be seen from the table, abdominal pain was an almost constant feature. Other authors also had similar experience.

Vaginal bleeding was also present in a large majority of the cases. According to Eastman (1956) and Peel (1963) it was found in 75 per cent of the cases. It has also been observed in 63.4 per cent by Webster and colleagues (1965).

Physical findings

TABLE III

	No. of cases	Per cent
Abdominal tenderness ..	101	88.03
Abdominal mass ..	43	36.75
Abdominal distension ..	16	13.44
Abdominal muscle guarding and/or rigidity ..	40	33.59
Adnexae or cul-de-sac mass	95	81.19
Pain and tenderness on manipulation ..	112	95.64
Enlargement of the uterus	44	37.61
Deviation of the uterus ..	40	30.35
Pallor	56	47.06

N.B.—Two cases who died soon after admission, are excluded.

Physical Findings

Abdominal tenderness, as can be seen from Table III, was found to be

present in over four-fifth of the cases. Our experience was similar to that of other authors.

Rigidity and muscle guarding have been recorded in about one-third of the cases. It was also noted in 36.5 per cent with Armstrong and associates (1959).

Abdominal mass and distension were observed in 36.75 per cent and 13.44 per cent of the cases respectively.

Vaginal mass was palpable in 4 out of every 5 cases. Eastman has observed that palpable pelvic mass is found in one half of the cases.

Tenderness on vaginal palpation and pain on movement of the cervix were present in almost all the cases. Experience of other authors is also similar.

Pallor, to which not much importance has been paid in the literature, was present in approximately half of the cases. Soisson and Moran (1959) observed paleness in 42 per cent of their cases.

Shock

Condition of shock was present in 18 patients (15.12 per cent) either on admission or developed later.

Other Diagnostic Procedures

Examination under anaesthesia had been done in 6 cases only, which was immediately followed by laparotomy in 5. In the remaining one, a wrong diagnosis was made and laparotomy was deferred. The patient developed shock a few hours later, when the condition was correctly diagnosed and laparotomy was performed.

In addition, dilatation and curettage had been performed in 5 cases. Endometrium was not found to be positive in any one of them. Biological test for pregnancy was carried out in one case only and a negative report was returned. It was a case of cornual pregnancy, wrongly diagnosed as missed abortion. Culdocentesis had been performed in 4 cases and all were positive.

Diagnosis

Excluding 2 cases, who expired before operation soon after admission, the diagnosis was definite or seriously suspected so as to justify laparotomy in 95 cases, i.e. 81.2 per cent. In 15 cases, i.e. 12.82 per cent, the pre-operative diagnosis was wrong. Two cases were diagnosed as fibroids, one as missed abortion and the remaining cases as adnexal inflammatory masses. In the remaining 9 cases, i.e. 5.98 per cent, the first diagnosis was wrong. Two were considered as threatened abortions, one each as retroverted gravid uterus and twisted ovarian cyst and the rest, as pelvic inflammatory condition. But they were correctly diagnosed later before operation.

Treatment

Treatment had been operative; where shock was present resuscitative treatment had been started before operation, which was also not delayed except in one case only. Blood transfusion was necessary before, during or after operation in two-thirds of the cases (68.75 per cent).

TABLE IV

Surgical procedures in tubal pregnancy

	No. of cases
Primary :	
Salpingectomy	77
Salpingo-oophorectomy	36
Subtotal hysterectomy	
Associated:	
Salpingectomy or Salpingo-oophorectomy of the other side	13
Subtotal hysteroctomy	3
Appendicectomy	6
Resection of ovary	2
Plication of round ligaments ..	3
Ligation of tube	6

Salpingectomy was performed in approximately two-thirds of the cases on the affected side, conserving the ovary. Subtotal hysterectomy was performed in one case of interstitial pregnancy. In one case conservative surgery on the affected tube was performed. Associated pelvic surgery was carried out in some cases including appendicectomy. Subtotal hysterectomy was performed in 3 other cases, where tubes and ovaries of both sides had to be removed.

In the case of cornual pregnancy, the pregnant horn along with the tube of the same side was removed.

In both the cases of secondary abdominal pregnancy, placenta was removed completely. Subtotal hysterectomy had to be performed in one of them as the placenta was adherent to the uterus.

Site of Ectopic

Out of 119 cases, it was tubal in 115 cases (94.48 per cent), cornual in 2 the remaining 2 being cases of secondary abdominal pregnancy, subsequent to tubal rupture.

TABLE V

Nature of disturbances in tubal pregnancy

	No. of cases	Per cent
Rupture	81	77.88
Abortion	23	22.12
Not mentioned ..	13	..

Nature of Disturbance

Eastman (1956) has observed that most common termination is rupture into the tube. Campbell (1952) and DrAA and Baum (1951) have found tubal abortion in nearly half of their cases, but three-fourth of our cases were tubal rupture (Table V).

Of the two cases of cornual pregnancy, one was found undisturbed during operation and the other ruptured resulting in death of the patient before operation.

Side Affected

Jeffcoate (1962) and Beacham and associates (Greenhill, 1960) have observed that tubal pregnancy occurs more commonly on the right side. Campbell (1952) and DrAA and Baum (1951) have also reported more frequent occurrence on the right side. But according to Chassar Moir (1956), right and left tubes are involved with approximately equal frequency. Our experience is similar to that. It was on the right side in 58 (51.79 per cent) and on the left side, in 54 (48.21 per cent). In the remaining 3 cases, this was not mentioned.

Associated Pathology

Tubo-ovarian mass of the opposite side was observed in 8, hydrosalpinx

in 6, haematosalpinx in 3 and chronic salpingitis in 4 cases. Also, ovarian cyst was found in 4 cases.

Morbidity

Post-operative abdominal distension occurred in 2 cases and in another primary union of the abdominal wound failed to occur. But rise of temperature in the immediate post-operative period was quite common.

Mortality

There were 3 deaths in all, giving a gross mortality of 2.52 per cent, of which 2 deaths occurred before operation and the other one, in the post-operative period (0.85 per cent).

Comments

Ectopic pregnancy commonly occurs in women of relatively younger age and with none or few children, though no age or parity is immune in the child-bearing period. In the large number of cases, it is found to be preceded by a long period of infertility. Besides other factors, previous pelvic inflammatory disease has been regarded as the commonest predisposing factor.

Diagnosis is usually made from the history and physical findings and usually should not be missed, if the possibility is constantly borne in mind. But in some cases, specially chronic ones, who may not present with typical features, diagnosis may be confusing.

There is practically no scope for any laboratory investigations in the diagnosis of ectopic pregnancy. Only blood grouping and cross-matching and routine blood counts need be done. A drop in haemoglobin level may indicate further blood loss, but that is not awaited to substantiate the diagnosis.

Biological test for pregnancy is of very uncertain value as an aid in the diagnosis. A negative result proves nothing, whereas a positive one is of no help in differentiating between intra-and extra-uterine pregnancy. But Hall and Todd (1961) have found it very helpful.

Examination under anaesthesia is also of questionable value and is frought with danger. Tenderness on vaginal palpation, a very important sign, can not be elicited, if the patient is anaesthetised. Also condition of the patient may deteriorate due to further haemorrhage, consequent to digital examination. This may be of some help in chronic cases, in patients who are unable to relax properly for satisfactory examination. If at all it is done, it should usually be followed by immediate laparotomy.

Endometrial biopsy and curettage, as a diagnostic aid, has not found favour with many. There may not be decidual reaction in all cases and intra-uterine pregnancy may be disturbed. But Campbell (1952) has observed that curettage often is of aid in diagnosing the condition correctly.

There is also a difference of opinion in the use of culdocentesis as a diagnostic procedure. It is being performed and recommended for performance in the consulting room (Webster and associates, 1965;) as a routine procedure, in suspected cases. There are others (Jeffcoate,

1962; DrAA and Baum, 1951), who have not favoured it. Presence of blood in the perforating needle does not confirm ectopic pregnancy and a negative result on the other hand does not always disprove its presence. Any way, the diagnosis is usually otherwise evident in such cases, where culdocentesis is expected to be of any value. In an occasional chronic case, where there is some fullness or palpable mass in the pouch of Douglas, culdocentesis would be worthwhile to differentiate ectopic pregnancy from pelvic abscess.

Posterior colpotomy has been advocated by many not only as a diagnostic procedure, but also as a method of treatment (Armstrong and co-workers, 1959; Malkasian and associates, 1958, DrAA and Baum, 1951). But it has not been generally accepted.

We agree with Eastman (1956), that in case of genuine doubt, abdominal exploration is a certain and safer procedure.

The treatment of ectopic pregnancy should always be surgical, the principle of which is 'Quick in and quick out'. Salpingectomy or Salpingoophorectomy of the affected side, if the ovary is destroyed by haemorrhage or adhesion, is the treatment of choice. In presence of associated pathology of the other adnexa, which should always be inspected during operation, further associated surgery will depend on the condition of the patient. Appendicectomy should not be performed for prophylactic reasons. Routine removal of the ovary on the affected side, as suggested by Jeffcoate (1962) has not been a generally accepted procedure.

If the other tube is destroyed by disease or previous surgery, one may have to think about conserving the affected tube if further pregnancy is much desired.

In presence of shock, operation need not be delayed long, awaiting complete resuscitation of the patient. But blood transfusion should be given during and after operation.

Unfortunately in an occasional case, haemorrhage may be massive and when the patient is brought for treatment in an extreme condition of shock and collapse, very little can be done.

Very rarely a concomitant intrauterine pregnancy may be present which should not be disturbed with unnecessary procedures.

Summary

The records of 119 cases of ectopic pregnancy have been studied and the data regarding its incidence, clinical features, diagnosis and treatment are analysed and compared with available literature.

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