

ECTOPIC PREGNANCY—DIFFERENT PRESENTATIONS AND DIAGNOSTIC PROBLEMS

by

R. RAJAN,* M.B.B.S., M.D., D.G.O.

and

M. SUBHADRA NAIR,** M.B.B.S., M.S., D.G.O

During the 6 year period, from 1969 to 1974, there were 90 cases of ectopic pregnancy among 21814 deliveries, giving a ratio of 1/242. The ratio is variously reported as from 1/64 to 1/293 by different authors (Table I). Various diagnostic problems encountered, especially when the signs and symptoms are elusive and misleading, are discussed.

Source of Material

The 90 cases reviewed are allotted to 5 groups depending on the diagnostic methods and problems (Table II)

Source of Material

The 90 cases reviewed are allotted to 5 groups depending on the diagnostic methods and problems (Table II)

TABLE I
Incidence of Ectopic Pregnancy

No.	Author	Year	Period of study	ectopic/delivery ratio
1.	Upadhayay et al	1952	1 year	1 in 296
2.	Upadhayay et al	1953	1 year	1 in 300
3.	Devi P. R.	1961	20 years	1 in 150
4.	Vladimar Skulj	1960	18 years	1 in 64
5.	Herman Webster	1965	17 years	1 in 116
6.	Paranjothi	1962	5 years	1 in 151
7.	Riva et al	1962	11 years	1 in 134
8.	Morton Schiffer	1963	10 years	1 in 176
9.	Present Series	1974	6 years	1 in 242

TABLE II
Classification of 90 Cases of Ectopic Gestations

No.	Group	Particulars	cases	percentage
1.	I	Clinically obvious cases	32	35.6%
2.	II	Probably ectopic	25	27.8%
3.	III	Ectopic for differential diagnosis	24	26.4%
4.	IV	Ectopic unsuspected	7	7.8%
5.	V	Secondary abdominal	2	2.5%

*Assistant Professor.

**Professor and Head of Department, Obstetrics and Gynaecology, Medical College, Kottayam, (Kerala).

Accepted for publication on 17-12-1975.

Group I: Consists of 32 cases in which the diagnosis of ectopic was obvious from the history of the patient and the physical findings at the time of hospitalisations. The diagnosis of ectopic pregnancy was

extremely easy in all these cases, and in none of these cases a second diagnosis was entertained. Seventeen of them exhibited signs of vascular collapse. Five patients had fainting attacks. Twenty-three had free blood in the peritoneal cavity and in 18 of them autotransfusion was given.

an ovarian tumour (1 case), fibroid uterus (2 cases), peritonitis (1 case) and perforation of uterus (1 case). (Table III).

Group V: Two cases of secondary abdominal pregnancies, one presenting with a live foetus and the other with an abdominal wall fistula discharging foetal bones, are included in this group.

TABLE III
Particulars of Group IV Cases (Ectopic Unsuspected)

Pre-operative diagnosis	No. of cases	Post-operative diagnosis	No. of cases
Inflammatory mass	2	Tubal abortion	1
		Ovarian pregnancy	2
Torsion of ovarian tumour	1	Ovarian pregnancy	1
Fibroid uterus	2	Tubal abortion	2
Peritonitis	1	Tubal rupture	1
Perforation of uterus	1	Tubal rupture	1

Group II: In another 25 patients the diagnosis of ectopic pregnancy with haemoperitonium was almost definite, though culdocentesis, was required for confirmation. Many of them were cases of tubal abortion or cases of old ectopic pregnancy.

Group III: In this group consisting of 24 cases, ectopic pregnancy was listed in the differential diagnosis. The other pathologies considered were pelvic inflammatory mass, fibroid uterus, retroverted gravid uterus, torsion of an ovarian tumour, abortion and appendicitis. A correct diagnosis was made by examination under anaesthesia, culdocentesis, and sometimes laparotomy. This group consisted of cases presenting mainly with pelvic masses and constitutes 26.4% of the total cases reviewed.

Group IV: Consists of 7 cases, where ectopic pregnancy was not suspected pre-operatively. The clinical diagnosis and indication for laparotomy were, pelvic inflammatory mass (2 cases), torsion of

Observations and Discussion

In this series of 90 cases, a correct pre-operative diagnosis was made at the time of hospitalisation in 32 cases (35.5%); and with the help of culdocentesis in 25 cases (27.8%). Thus, 63.3% of ectopic pregnancies were correctly diagnosed before laparotomy. Hall and Todd (1961) in their series diagnosed 67% of ectopic pregnancies on clinical and laboratory grounds; 23% by means of minor operative procedures and 10% by laparotomy. Torpin *et al* (1961) in their series of 154 cases made a correct diagnosis in 91 cases. A correct diagnosis was made pre-operatively in 97.1% of cases reported by Rawlings and Pathak (1959). Schiffer (1963) diagnosed 60% of his cases at the time of admission.

In 31 cases in our series (24 in group III and 7 in group IV), the signs and symptoms were so elusive and misleading, that a correct clinical diagnosis was not made. In all these cases the diagnosis was confirmed after laparotomy (34.5%). The remaining 2 cases of advanced extra-

uterine pregnancies are considered separately (group V).

Symptoms of Ectopic Pregnancy

The classical symptoms of early pregnancy complications, pain in abdomen, amenorrhoea and bleeding per vaginam were present in the following order: pain in abdomen: 85.6%, amenorrhoea: 62%, and vaginal bleeding 54.5%.

TABLE IV
Symptoms

No.	Signs & Symptoms	Patients	Percentage
1.	Amenorrhoea	56	62.2%
2.	Pain in abdomen	77	85.6%
3.	Vaginal Bleeding	49	54.5%
4.	Fainting attacks	5	5.6%
5.	Vomiting	11	12.2%
6.	Urinary symptoms	7	7.8%
7.	Rectal Symptoms	5	5.6%
8.	Pallor	40	44.4%
9.	Shock	20	22.2%
10.	Fullness of abdomen	25	27.8%
11.	Fullness of fornices	25	27.8%
12.	Pelvic mass	44	48.9%

In his series, Riva (1962) has reported pain in 94%, amenorrhoea in 87% and vaginal bleeding in 77%. Garber (1955) has given an incidence of pelvic pain in over 90%, shoulder pain in 17 to 18% vaginal bleeding in over 80% and amenorrhoea in 50%. In the report of Schiffer (1963), pain accounted for (94%), and vaginal bleeding for 75.5%.

Shock and Fainting Attacks: Shock is an uncommon symptoms of ectopic pregnancy. Paranjothi (1962), has reported an incidence of shock in 12.5% of her cases. Upadhyay *et al* (1955) in their series of 74 cases, have come across shock only on 2 occasions (2.7%). According to Riva *et al* (1962) the incidence of shock is less than 25%. Out of 268 cases Schiffer (1963) had reported an incidence of

7.8%; whereas Hall and Todd (1961) had 15.8% of the patients with shock and/or fainting attacks.

We had 20 cases of ectopic ruptures admitted in a state of vascular collapse. (22.2%). 53% of group I patients and 4% of group II patients were admitted in a collapsed state. Out of the 20 cases, 5 patients developed vascular collapse following pelvic examination.

Pelvic Mass: A definite pelvic mass was present in 44 cases (48.9%). More than 50% with pelvic masses belonged to group III cases. Five out of 7 patients in group IV had a pelvic mass. The incidence of pelvic masses is variously reported as 47% (Riva *et al*) and 43.75% (Paranjothi). (Table V)

TABLE V
Pelvic Mass

Total Number of Cases with Palpable Pelvic Mass: 44 (48.9%)

1.	Tubal abortions	16 cases	36.4%
2.	Pelvic haematocoele	14 cases	31.8%
3.	Peritubal haematocoele	8 cases	18.2%
4.	Ovarian pregnancy	3 cases	6.8%
5.	Cornual pregnancy	3 cases	6.8%

Culdocentesis: Culdocentesis is a useful diagnostic aid, though it is by no means infallible. Culdocentesis cannot be relied upon in cases presenting with some atypical features whereas a typical ectopic rupture does not require culdocentesis for the diagnosis. Paranjothi (1962) in her series of 80 cases, performed culdocentesis on 20 occasions (25%) and got 100% correct results. Rawling and Pathak (1959) performed cul-de-sac aspiration in 49.6% and obtained correct results in 80% of cases, false positive in 12% and false negative in 8%. Hall and Todd obtained correct results in 85% of their 20 cases.

We have performed culdocentesis on 39 occasions for cases of suspected ectopic rupture (Table VI). Correct diagnosis

nancy and the rest 5 cases were due to trauma.

The 3 false positive reports in our series

TABLE VI
Culdocentesis

No.	Author	Culdocentesis performed	True positive	False positive	False negative
1.	Paranjothi	20 cases	100%	nil	nil
2.	Rawlings & Pathak	50 cases	80%	12%	8%
3.	Hall & Todd	20 cases	85%	—	—
4.	Riva et al	8 cases	55%	—	—
5.	Present series	39 cases	87.1%	7.8%	5.1%

was obtained in 34 cases (87.1%), there were 2 false negative results and three false positive results. According to Jeffcoate (1967) culdocentesis is not a reliable method of diagnosis. Schiffer (1963) reported 23% false reports. Riva *et al* (1962) reported a correct diagnosis only in 55% of their series, and they believed that the false negative results are either due to big organised clots which cannot be aspirated by a needle or due to pelvic adhesions. The possibility, especially in obese women, of omentum and epiploicae of the intestines preventing the blood from gravitating into the pouch of Douglas, as a cause of false negative reports is considered by Reich and Mitchell (1962). These factors must always be kept in mind when culdocentesis is performed, and depending upon culdocentesis completely for diagnosis will be unwise.

False positive results may be either due to aspiration of blood where haemoperitoneum does not exist (due to trauma) or where the haemoperitoneum is due to conditions other than ectopic. In the series of Rawling and Pathak (1959) there were 6 false positive cases (12%). One case was due to a ruptured Graffan follicle simulating acute rupture of ectopic preg-

nancy and the rest 5 cases were due to other causes. There were no traumatic false positive reports. One was a case of follicular cyst rupture in a nulliparous woman; the second one was a case of uterine perforation due to trophoblastic malignancy and the third was a case of fibroid uterus associated with haemoperitoneum in a 45 year old multiparous woman.

The presence of free blood in the peritoneal cavity arouses suspicion of ectopic gestation or injury to various structures. When these two conditions are ruled out, the only other possibility is regurgitation of the uterine bleeding through the fallopian tube, especially when the uterus is the seat of myoma. Jeffcoate (1957) says, 'retrograde menstruation is a common phenomenon as can be seen during laparotomy. It is said to be more common when the uterus is the seat of myomas or when it is retroverted'. A similar case of haemoperitoneum during pregnancy is reported by Gosal (1962).

This series of 90 cases of ectopic pregnancies includes 3 cases of ovarian gestation, proved by histopathology. The pre-operative diagnosis was pelvic haemato-

coele, torsion of an ovarian tumour and pelvic inflammatory mass. The photographs of the case which presented as torsion of an ovarian tumour are given.

Summary

The varied clinical features and diagnostic problems of 90 cases of ectopic pregnancies are discussed. The cases are classified into 5 groups. A correct pre-operative diagnosis of ectopic gestation was made in 63.3% of cases. Culdocentesis was done for 39 cases and a correct diagnosis was made in 87.1%. Different presentations of 3 cases of ovarian pregnancy, diagnosed by laparotomy and confirmed by histopathology are presented.

Acknowledgement

We are grateful to the superintendent, Medical College Hospital, Kottayam—I for her kind permission to use the hospital records. We offer our thanks to the Professor and other staff members of the Pathology department for their kind cooperation. With pleasure, we acknowledge the services rendered by our House-Officers, Dr. Mani Varghese and Dr. Mathew Mathai.

References

1. Garber: Quoted by reference 10.
2. Ghosal, K. K.: *J. Obst. & Gynec. India* 12: 521, 1962.
3. Hall, R. E. and Todd, D. W.: *Am. J. Obst. & Gynec.* 81: 1220, 1961.
4. Jeffcoate, T. N. A.: *Principles of Gynaecology*, Butterworth, 252, 1957.
5. Jeffcoate, T. N. A.: *Principles of Gynaecology*, Butterworth, 274, 1967.
6. Paranjothi, D.: *J. Obst. & Gynec. India* 12: 459, 1962.
7. Rawlings, E. E. and Pathak, N. N.: *J. Obst. & Gynec. India* 10: 118, 1959.
8. Reich, W. J. and Mitchell, N. J.: *Pitfalls in Gynaecological Diagnosis and surgery*, P. 153, 1962.
9. Riva, H. L., Kammeraad, L. A. and Anderson, P. S.: *Obst. & Gynec.* 20: 189, 1962.
10. Schiffer, M. A.: *Am. J. Obst. & Gynec.* 86: 264, 1963.
11. Skulj, V.: *Am. J. Obst. & Gynec.* 80: 278, 1960.
12. Subhadra Devi, N.: *J. Obst. & Gynec. India* 11: 400, 1961.
13. Torpin, R., Coleman, J., Seifi, M. and Arshadi, S.: *Am. J. Obst. & Gynec.* 82: 456, 1961.
14. Upadhyay, S. N., Battacharya, G. R. and Prakash, B.: *J. Obst. & Gynec. India* 6: 76, 1955.
15. Webster, H. D., Barclat, D. L. and Fischer, C. K. *Am. J. Obst. & Gynec.* 92: 23, 1965.

See Figs. on Art Paper II