

Clinical Study of Ectopic Pregnancy in Tertiary Care Hospital

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Abstract

Background and objective: In the past two decades, the incidence of ectopic pregnancy has been increasing dramatically, worldwide. One of the major triggering factor for this being the introduction of medical assisted procreation techniques. The present study of cases of ectopic pregnancy, is to know our experience regarding the incidence, clinical presentation, risk factors and associated maternal morbidity and mortality.

Materials and Methods: All diagnosed cases of ectopic pregnancy admitted to Santhiram medical college and general hospital during a period of two years. It was a retrospective study using Contingency Table analysis and Chi-square test.

Results: A total of 34 patients were admitted with history suggestive of ectopic pregnancy from June 2017 to May 2019. Risk factors were found in 50% of cases and the major contributors were dilatation and curettage 11.8%, PID, infertility, previous tubal surgery, previous abortions and OCP use contributing to 5.9% each. Out of the 34 patients, 28 were true ectopics and 6 were misdiagnosed. Surgical treatment was performed in all the 28 patients as majority of them were referred to our hospital after the diagnosis of ruptured ectopic pregnancy was made. Blood transfusion was given in 38.2%. Postoperative period was uneventful in all of them.

Conclusion: As the incidence of ectopic pregnancy has been on the rise, screening of high-risk cases, early diagnosis and early intervention are required to enhance maternal survival and conservation of reproductive capacity.

Key words: Ectopic pregnancy, salpingectomy

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I. Introduction

Ectopic pregnancy is one of the commonest acute abdominal emergencies a gynecologist has to meet in his day-to-day practice. It is also a matter of great concern that a woman might have to face any time during her childbearing period. It not only threatens the life if not treated timely and effectively but also tells upon her fertility unavoidably by causing mutilation of an essential organ of reproduction, namely the fallopian tube with or without ovary and sometimes even the uterus. Many pathological conditions present a percentage of variables but only a few have greater disparity of symptoms, signs, opinions and reports as ectopic, which has made ectopic pregnancy both an interesting and challenging problem, which is at times so difficult to diagnose and manage.

Ectopic pregnancy is a disease of diagnostic surprises as Novak says, "The physician who has Ectopic pregnancy on the brain will rarely fail to make the diagnosis when it exists and he will diagnose it often when it is not present".

II. Objectives

- To study the clinical presentation of ectopic pregnancy.
- To study the risk factors associated with ectopic pregnancy.
- To study the immediate morbidity and mortality associated with ectopic pregnancy.

III. Materials And Methods

Source of data: This study was undertaken at Santhiram Medical College and general Hospital, Nandyal between June 2017 and May 2019 after obtaining clearance from the Hospital Ethical Committee.

Method of collection of data: All diagnosed cases of ectopic pregnancy were enrolled in the study. A detailed history and clinical evaluation was done. Information was collected in a pre-tested proforma.

STATISTICAL ANALYSIS:

Following statistical methods were employed in the present study

- ❖ Contingency Table analysis and
- ❖ Chi-square test.
- ❖ **Contingency coefficient analysis (Cross tabs Procedure)**

The Crosstabs procedure forms two-way and multiway tables and provides a variety of tests and measures of association for two-way tables. The structure of the table and whether categories are ordered, determine what test or measure to use. Crosstabs' statistics and measures of association are computed for two-way tables only. If one specifies a row, a column, and a layer factor (control variable), the Crosstabs procedure forms one panel of associated statistics and measures for each value of the layer factor (or a combination of values for two or more control variables). Chi-square test procedure tabulates a variable into categories and computes a chi-square statistic. This goodness-of-fit test compares the observed and expected frequencies in each category to test either that all categories contain the same proportion of values or that each category contains a user-specified proportion of values. All the statistical operations were done through SPSS for Windows, Version 22

Inclusion Criteria: All diagnosed cases of ectopic pregnancy admitted to Santhiram medical college and general hospital, Nandyal during the 2 years study period.

Exclusion Criteria: All intrauterine pregnancies

I. On admission, history of the patient was taken in which the following points were noted:

- 1) Name, age, address, occupation and social status.
- 2) History of amenorrhea whether present or not.
- 3) History of pain abdomen acute or vague
- 4) History of vaginal bleeding if present, duration and nature.
- 5) Any attacks of syncope or vomiting.
- 6) Urinary or rectal symptoms, dysuria or retention.
- 7) History of fever or untoward symptoms like backache or any other discomfort.
- 8) History of shoulder pain if present.
- 9) Menstrual history - menarche, menstrual period, cycle pattern, duration of flow, dysmenorrhoea, last menstrual period.
- 10) Obstetrical history – number of conception, number of full term deliveries, date of LCB, nature of deliveries, puerperium, number of abortions, if any, date of last abortion.
- 11) History of previous ectopic pregnancy, if present, detailed record.
- 12) History of previous surgery dilatation and curettage, appendicectomy or any other abdominal surgery.
- 13) History of pelvic inflammatory disease and treatment received for it or tuberculosis.
- 14) Family history of tuberculosis.
- 15) History of infertility, previous tubal surgeries -tuboplasty
- 16) Method of family planning – IUCD, minipill.

II. General Examination: On examination the following points were noted

- 1) Condition of patient – anaemia, presence of shock, restlessness, cold and clammy extremities.
- 2) Pulse, respiration, blood pressure and temperature.
- 3) Cardiovascular and respiratory systems were also examined.

III. Local examination Per-abdomen

- 1) Guarding, rigidity, tenderness.
- 2) Presence of mass, signs of free fluid in peritoneal cavity.
- 3) Presence of rare signs like Cullen's sign.

Vaginal examination

- 1) Bleeding -nature
- 2) Colour of the cervix
- 3) Tenderness on movement of the cervix.
- 4) Position of the cervix whether pulled or not.
- 5) Size of the uterus, mobility and consistency
- 6) Presence of mass in any of the fornices.

Per-rectal examination

Was done for confirmation of findings whenever necessary.

The following investigations were carried out:

- Hb%, Blood grouping and Rhtyping
- Urine pregnancy test;
- Ultrasonography;
- TC, DC, ESR if necessary

Management

In acute cases with the typical symptoms i.e., amenorrhea, pain and bleeding there was no difficulty in diagnosis, which was confirmed by USG followed by laparotomy.

On admission, after a detailed examination, a sample of blood was drawn for grouping and cross-matching to arrange blood transfusion.

Patients in shock were treated and then taken for surgery. Blood transfusion was given preoperative, intraoperative or postoperative as per the requirement of individual cases. Plan of management was decided based on individual cases.

In cases with atypical findings (history and examination) simulating other condition like pelvic infection, twisted ovarian cyst or acute appendicitis were hospitalized for observation and taken for laparotomy subsequently.

Surgical Procedure

All the surgical procedures were performed under General Anesthesia.

Abdomen was opened with suitable incision.

The site of ectopic gestation, status of the fallopian tube, contralateral tube, ovaries and uterus was noted. As majority of the patients had ruptured tubal gestation, a decision for removal of the tube i.e., unilateral salpingectomy was made. Salpingectomy was combined with contralateral tubectomy in patients who did not wish to conceive. In cases with obvious pathological findings on the opposite side, the diseased adnexa was removed.

Post-operative Care

Prophylactic antibiotics were given to all patients at the time of induction of anaesthesia. Patients were followed up in the postoperative period with special attention to the development of fever abdominal pain, distension of the abdomen and wound sepsis. Patients were discharged with an advise to come for follow up after a week.

IV. Results

In this series, 34 cases of suspected ectopic gestation were observed and treated during a period of two years from June 2017 to May 2019 at Santhiram Medical College and General Hospital, Nandyal.

Table 1: Elaboration of cases

Diagnosis	No. of cases	Percentage
True ectopic pregnancy	28	82.4
Misdiagnosed cases	6	17.6
Total	34	100.0

Table 2: Misdiagnosed cases

Misdiagnosed cases	No. of Cases	Percentage
Chronic ectopic	1	16.7
Tubo ovarian mass	2	33.3
Threatened abortion	1	16.7
Missed abortion	1	16.7
Appendicitis	1	16.7
Total	6	100.0

Chi-square=0.667; P<0.995 (NS)

Analysis of tubal pregnancy

Age: The maternal age in this series ranged from 18 years to 40 years

Table 3: Ectopic pregnancy in relation to age

Age groups (yrs)	No. Of Cases	Percentage
15-20	4	11.8
21-25	15	44.1
26-30	9	26.5
31-35	2	5.9
36-40	4	11.8
Total	34	100.0

Chi-square=0.667; P<0.995 (NS)

The maximum number of ectopic gestation in the present series occurred between the age group 21 to 25 years. The youngest age was 18 years and oldest was 40 years. Only two patients were teenagers.

Table 4: Distribution of cases based on parity

Parity	No. of Cases	Percentage
Nulliparous	9	26.5
1	4	11.8
2	9	26.5
3	9	26.5
4	3	8.8
Total	34	100.0

Chi-square=5.412; P<0.248 (NS)

When review of previous reproductive performance was studied, it was found that the maximum incidence of ectopic gestation (26.5%) occurred among the nulliparous and in the second and the third gravidas. In 9 out of 34 patients, ectopic pregnancy was the first conception.

Table 5: Correlation of the sample by age and parity

Age group (yrs)	PARITY					Total
	Nulliparous	1	2	3	4	
15-20	3 (75.0%)	1 (25.0%)	-	-	-	4
21-25	6 (40.0%)	2 (13.3%)	7 (46.7%)	-	-	15
26-30	-	1 (11.1%)	1 (11.1%)	6 (66.7%)	1 (11.1%)	9
31-35	-	-	1 (50.0%)	1 (50.0%)	-	2
36-40	-	-	-	2 (50.0%)	2(50.0%)	4
Total	9 (26.5%)	4 (11.8%)	9 (26.5%)	9 (26.5%)	3 (8.8%)	34

CC=0.722; P<0.000 (HS)

A significant association was observed between age and parity. Contingency coefficient of 0.722 was found to be highly significant (P<0.000). A clear trend seen from the table is that, as the age increased parity also increased linearly.

Table 6: Distribution of the cases by Socio-economic status

SES categories	No. Of cases	Percentage
Low	29	85.3
Medium	5	14.7
High	0	0
Total	34	100.0

Chi-square=16.941; P<0.000 (HS)

Majority of the cases belonged to the low socio-economic status and only 14.7% of the sample were from a medium socio-economic status and none of them belonged to the high socio-economic status.

Table 7: Table showing the interval between last pregnancy and ectopic pregnancy

Interval	No. Of cases	Percentage
Nullipara	7	20.6
1-2 years	4	11.8
3-5 years	7	20.6
5 + years	16	47.1
Total	34	100.0

Chi-square=9.529; P<0.023 (S)

This table shows that as the interval between pregnancies increase, the incidence of ectopic pregnancy also increases. In this study, when the interval between pregnancies was >5 years, the incidence of ectopic pregnancy was 47.1%

Table 8: Table showing the Risk factors in ectopic pregnancy

Risk factors	No. of cases	Percentage
None	17	50.0
Oral contraceptives	2	5.9
Tubectomy	2	5.9
Dilatation and curettage	4	11.8
IUCD	1	2.9
Previous abortions	2	5.9
Previous ectopic pregnancies	1	2.9
Infertility	2	5.9
Appendicectomy	1	2.9
Pelvic inflammatory disease	2	5.9
Total	34	100.0

Chi-square=62.471; P<0.000 (HS)

There were no risk factors identified in 50% of the cases. Infertility of more than 4 years was seen in 2 out of 34 cases. One was an unmarried woman and hence is not included in the infertility group. 11.8% of the patients had undergone procedures such as dilatation and curettage previously. 5.9% and 2.9% of the cases used contraceptives in the form of oral contraceptive pills or IUCD respectively. Two patients gave a history of pelvic inflammatory disease and they had undergone treatment with antibiotics.

Surgical procedures seen were appendicectomy in one patient, tubal ligation in two patients and one patient had been operated previously for ectopic gestation.

Table 9: Distribution of the sample based on the site of ectopic pregnancy and risk factor

Risk factor	Site of ectopic pregnancy			Total
	Ampullary	Isthmal	Interstitial	
None	9 (40.9%)	3 (50.0%)	1 (100.0%)	13 (44.8%)
Oral contraceptives	2 (9.1%)	-	-	2 (6.9%)
Tubectomy	2 (9.1%)	-	-	2 (6.9%)
Dilatation and curettage	2 (9.1%)	1 (16.7%)	-	3 (10.3%)
IUCD	1 (4.5%)	-	-	1 (3.4%)
Previous abortions	2 (9.1%)	-	-	2 (6.9%)
Previous ectopic pregnancies	1 (4.5%)	-	-	1 (3.4%)
Infertility treatment	1 (4.5%)	1 (16.7%)	-	2 (6.9%)
Appendicectomy	-	1 (16.7%)	-	1 (3.4%)
Pelvic inflammatory disease	2 (9.1%)	-	-	2 (6.9%)
Total	22 (100.0%)	6 (100.0%)	1 (100.0%)	29 (100.0%)

CC=0.492; P<0.954 (NS)

Majority of the cases had an ampullary pregnancy. Isthmal pregnancy was seen in three patients (50%) who had no significant risk factors. It was observed that, patients who underwent procedures such as Dilatation and Curettage, appendicectomy and was on infertility treatment, had an increased incidence of isthmal pregnancy than ampullary ectopic pregnancy.

Table 10: Distribution of the sample by Risk factors and condition of the tube

Risk factor	Condition of the tube					Total
	Ruptured	Tubal abortion	Un-ruptured	Haemato-salpinx	Normal	
None	7 (41.2%)	5 (50.0%)	1 (100.0%)	-	4 (80.0%)	17 (50.0%)
Oral contraceptives	-	2 (20.0%)	-	-	-	2 (5.9%)
Tubectomy	1 (5.9%)	1 (10.0%)	-	-	-	2 (5.9%)
Dilatation and curettage	2 (11.8%)	1 (10.0%)	-	-	1 (20.0%)	4 (11.8%)
IUCD	1 (5.9%)	-	-	-	-	1 (2.9%)
Previous abortions	2 (11.8%)	-	-	-	-	2 (5.9%)

Previous ectopic pregnancies	1 (5.9%)	-	-	-	-	1 (2.9%)
Infertility	1 (5.9%)	1 (10.0%)	-	-	-	2 (5.9%)
Appendicectomy	1 (5.9%)	-	-	-	-	1 (2.9%)
Pelvic inflammatory disease	1 (5.9%)	-	-	1 (100.0%)	-	2 (5.9%)
Total	17 (100.0%)	10 (100.0%)	1 (100.0%)	1 (100.0%)	5 (100.0%)	34 (100.0%)

CC=0.684; P<0.752 (NS)

The mode of termination of ectopic pregnancy, in patients who had risk factors such as previous abortions, previous ectopics, Dilatation and Curettage in the past and prior appendicectomy was mainly by rupture of the fallopian tube. Hematosalpinx was seen in one case of pelvic inflammatory disease.

Table 11: Mode of presentation

Symptoms	No. of cases	Percentage
Amenorrhea	26	76.5
Pain Abdomen	30	88.2
Bleeding	20	58.8
Others	9	26.5

The typical triad of amenorrhoea, pain abdomen and bleeding was observed in 74.5% cases. Abdominal pain was the most significant symptom in 88.2% of patients. Other symptoms were giddiness in one patient (2.9%), retention of urine in one patient (2.9%), loose stools in one patient (2.9%) and nausea and vomiting in six patients (17.6%).

Table 12: Distribution of the sample by Site of ectopic pregnancy and the mode of presentation

Mode of presentation	Site			P-value
	Ampullary	Isthmal	Interstitial	
Amenorrhea	17 (77.3%)	4 (66.7%)	1 (100.0%)	P<0.734 (NS)
Pain Abdomen	18 (81.8%)	6 (100.0%)	1 (100.0%)	P<0.478 (NS)
Bleeding	16 (72.7%)	2 (33.3%)	-	P<0.091 (NS)
Others	6 (27.3%)	1 (16.7%)	-	P<0.734 (NS)

Abdominal pain and amenorrhoea were the most common symptoms in patients who had ampullary pregnancy. Bleeding per vaginum was a complaint in 72.7% of ampullary pregnancies. But in isthmal pregnancies it was observed only in 33.3% of the cases. In the present study, none of the patients with interstitial pregnancy complained of bleeding per vaginum.

Table 13: Distribution of the sample by mode of presentation and the condition of the tube

Mode of presentation	Condition of the tube					P – value
	Ruptured	Tubal abortion	Un-ruptured	Haemato-salpinx	Normal	
Amenorrhea	13 (50.0%)	7 (26.9%)	1 (3.8%)	1 (3.8%)	4 (15.4%)	P<0.92 (NS)
Pain Abdomen	15 (50.0%)	9 (30.0%)	1 (3.3%)	-	5 (16.7%)	P<0.08 (NS)
Bleeding	9 (45.0%)	8 (40.0%)	1 (5.0%)	-	2 (10.0%)	P<0.29 (NS)
Others	4 (44.4%)	3 (33.3%)	-	-	2 (22.2%)	P<0.85(NS)

On laparotomy, patients who had a ruptured fallopian tube, had amenorrhoea and acute pain abdomen as their major symptoms on admission. Whereas, 40% of the patients who had a tubal abortion, presented with bleeding per vaginum. Patients with unruptured tubal pregnancies also had similar symptoms but only in smaller proportions.

Table 14: General physical examination

Symptoms	Number of cases	Percentage	value	P value
Pallor	26	76.5	9.529	0.002 (HS)
Shock	2	5.9	26.47	0.000 (HS)
None	8	23.5	9.529	0.002 (HS)
Fever	2	5.9	26.47	0.000 (HS)

Out of 34 patients, only 2 were admitted in a state of shock. Among these, pallor alone was found to be present in 76.5% cases. However, other symptoms like fever occurred significantly in less number of cases.

Table 15: Correlation of general examination and the site of ectopic pregnancy

General examination	Site of ectopic pregnancy			P-value
	Ampullary	Isthmal	Interstitial	
Pallor	17 (77.3%)	5 (83.3%)	1 (100.0%)	P<0.829 (NS)
Shock	1 (4.5%)	-	1 (100.0%)	P<0.001 (HS)
None	5 (22.7%)	1 (16.7%)	-	P<0.829 (NS)
Fever	-	1 (16.7%)	-	P<0.137 (NS)

In the present study, fever was noted in one patient who had an isthmal pregnancy. Two patients, who presented with shock, eventually had a ruptured ampullary and a ruptured interstitial pregnancy.

Table 16: Correlation of general examination findings and peroperative condition of the tube

General examination	Condition of the tube					P-value
	Ruptured	Tubal abortion	Un-ruptured	Haemato-salpinx	Normal	
Pallor	12 (70.6%)	9 (90.0%)	1 (100.0%)	1 (100.0%)	3 (60.0%)	P<0.607 (NS)
Shock	2 (11.8%)	-	-	-	-	P<0.713 (NS)
None	4 (23.5%)	2 (20.0%)	-	-	2 (40.0%)	P<0.837 (NS)
Fever	1 (5.9%)	-	-	-	1 (20.0%)	P<0.636 (NS)

90% of patients who had tubal abortion presented with pallor. Two patients who were brought in shock had ruptured tubal pregnancy on laparotomy. One patient who had come with fever was diagnosed to have acute appendicitis

Table 17: Abdominal examination findings

Findings	Number of cases	Percentage	χ ² value	P value
Tenderness	27	79.4	11.765	0.001 (HS)
Distension	5	14.7	16.941	0.000 (HS)
None	4	11.8	19.882	0.000 (HS)
Guarding	5	14.7	16.941	0.000 (HS)

Tenderness was found to be a significant finding in 27 (79.4%) cases. However, other symptoms like distension and guarding was seen in 14.7% of the cases.

Table 18: Distribution of the sample by abdominal examination findings and the condition of the tube

Abdominal examination	Site of ectopic pregnancy			P-value
	Ampullary	Isthmal	Interstitial	
Tenderness	16 (72.7%)	6 (100.0%)	-	P<0.075 (NS)
Distension	3 (13.6%)	-	1 (100.0%)	P<0.207 (S)
None	4 (18.2%)	-	-	P<0.478 (NS)
Guarding	2 (9.1%)	-	1 (100.0%)	P<0.009(HS)

On abdominal examination, the most common sign was tenderness and was present in 72.7% of cases of ampullary and all 6 cases of isthmal pregnancies. Distension and guarding was observed in interstitial pregnancy. However 18.2% of ampullary pregnancies had no positive abdominal findings.

Table 19: Correlation of abdominal examination findings and the condition of the tube

Abdominal examination	Condition of the tube					P -value
	Ruptured	Tubal abortion	Un- ruptured	Haemato-salpinx	Normal	
Tenderness	12 (70.6%)	9 (90.0%)	1 (100.0%)	-	5 (100.0%)	P<0.141 (NS)
Distension	3 (17.6%)	1 (10.0%)	-	-	1 (20.0%)	P<0.945 (NS)
None	2 (11.8%)	1 (10.0%)	-	1 (100.0%)	-	P<0.080 (NS)
Guarding	3 (17.6%)	-	-	-	-	P<0.315(NS)

Tenderness on abdominal examination was a common feature in ruptured, unruptured and tubal abortions. But distension and guarding were signs which were exclusively present in cases of ruptured ectopic pregnancy (17.6%)

Table 20: Per speculum examination

Bleeding	No. of cases	Percentage
Absent	14	41.2
Present	20	58.8
Total	34	100.0

Chi-square=1.059; P<0.303 (NS)

58.8% of patients had bleeding per vaginum on speculum examination. Among these 20 patients, 45% had ruptured ectopic pregnancy and 40% had tubal abortion. The fallopian tube was unruptured in 5% and in 10% of them, the tube was normal. Therefore, the presence of bleeding on speculum examination would give a pinch of a ruptured ectopic or tubal abortion.

Table 21: Uterine size

Uterine size	No. of cases	Percentage
Normal	32	94.1
Increased	2	5.9
Total	34	100.0

Chi-square=26.471; P<0.000 (HS)

Majority of the cases had normal uterine size. It was found increased in two cases - one of threatened abortion and another case of missed abortion.

Table 22: Cervical tenderness

Cervical tenderness	No. of cases	Percent
Absent	15	44.1
Present	19	55.9
Total	34	100.0

Chi-square=0.471; P<0.493 (HS)

Painful cervical movements was seen in 19 patients (55.9%). This sign along with suggestive history and mass or fullness of the posterior fornix was most helpful in arriving at the correct diagnosis of eccyesis. The classical sign of cervical excitation was present in 55.9% patients. Majority of these patients had tubal rupture on laparotomy.

Table 23: Forniceal tenderness

Forniceal tenderness	No. of cases	Percentage
Absent	17	50.0
Tenderness alone	2	5.9
Tenderness with mass	15	44.1
Total	34	100.0

Chi-square=11.706; P<0.003 (HS)

Majority of the cases had absence of forniceal tenderness. About 44% of the cases had tenderness with mass in the fornix and two cases had tenderness alone. Chi- square test revealed a significant difference.

Presence of forniceal tenderness along with a mass was suggestive of a ruptured ectopic pregnancy. Forniceal examination was negative in most of the cases of tubal abortion.

Table 24: Urine pregnancy test

Urine pregnancy test	No. of cases	Percentage
Negative	4	11.8
Positive	30	88.2
Total	34	100.0

Chi-square=19.882; P<0.000 (HS)

Urine pregnancy test was a simple test which aided in rightly diagnosing cases of ectopic pregnancy. The positive predictive value being 0.93.

Table 25: Correlation of urine pregnancy test and peroperative condition of the tube

Urine Pregnancy test	Condition of the tube					Total
	Ruptured	Tubal abortion	Un- ruptured	Haemato-salpinx	Normal	
Negative	1 (5.9%)	1 (10.0%)	-	-	2 (40.0%)	4 (11.8%)
Positive	16 (94.1%)	9 (90.0%)	1 (100.0%)	1 (100.0%)	3 (60.0%)	30 (88.2%)
Total	17 (100.0%)	10 (100.0%)	1 (100.0%)	1 (100.0%)	5 (100.0%)	34 (100.0%)

CC=0.349; P<0.319 (NS)

Only one case of ruptured ectopic pregnancy and one case of tubal abortion was found negative by a UPT.

Table 26: Ultrasonography

Ultrasonography findings	No. of cases	Percentage
Ruptured	19	55.9
Unruptured	9	26.5
Misdiagnosed	6	17.6
Total	34	100.0

Chi-square=8.176; P<0.017 (S)

55.9% of the cases were ruptured, 26.5% of them were unruptured and six cases were misdiagnosed in comparison to the clinical examination findings.

Table 27: Showing side of ectopic pregnancy on laparotomy

Side of ectopic pregnancy	No. of cases	Percentage
True ectopic pregnancy	28	
Right	15	44.1
Left	13	38.2
Misdiagnosed	6	17.7
Total	34	100.0

Chi-square=14.235; P<0.000 (S)

Among the 28 true ectopics, 15 were on the right side and 13 occurred on the left side.

Table 28: Site of ectopic pregnancy on laparotomy

Site of ectopic pregnancy	No. of cases	Percentage
Ampullary	22	75.9
Isthmal	6	20.7
Interstitial	1	3.4
Total	29	100.0

Chi-square=24.897; P<0.000 (S)

Significantly more number of cases had ampullary pregnancy, followed by Isthmal and least in the Interstitial part of the fallopian tube

Table 29: Condition of the fallopian tube on laparotomy

Condition of the tube	No. of cases	Percentage
Ruptured	17	50.0
Tubal abortion	10	29.4
Unruptured	1	2.9
Haematosalpinx	1	2.9
Normal	5	14.7
Total	34	100.0

Chi-square=27.176; P<0.000 (S)

V. Discussion

In the present study, the maximum incidence of ectopic occurred between parity 2 and 4 ranging from parity 0-4, Munro Kerr and Eastman are of the opinion that there is no specific relation between parity and ectopic. But in the study by Rose et al, as parity increases there is a decrease in the incidence of ectopic pregnancy. According to ICMR Multicentric Case Control Study (1990) of ectopic pregnancy, majority of women were young and had low parity. Mean age 28.01 ± 4.9 years.

ETIOLOGICAL FACTORS

Period of infertility: In the present study, period of infertility varied from 4 to 6 years giving an incidence of 5.9% for infertility. It is stated that, ectopic pregnancy follows a period of infertility. Significant incidence of prolonged infertility and its causal relationship to ectopic pregnancy has been observed by several authors such as Eastman, (1976) Iffy (1961, 63), Greenhill (1965).

According to March (1998), Savitha Devi (2000) and Rose et al. (2002), a positive history of infertility was present in 2.9%, 48.07% and 15.1% respectively. Several authors have also reported primary infertility as a significant risk factor - 11.2% Arora et al. (1998) and 55.2% by Mitra et al.(1980).

PID: In the present study, only two patients gave a history PID which contributes to 5.9%. Literature shows that PID is an important factor predisposing to the development of ectopic pregnancy. According to other studies done by March Banks (1998), Savitha Devi (2000) and Rose et al. (2002), the incidence of PID as a risk factor is 4, 25 and 34.4% respectively.

PID following gonococcal, chlamydial and other bacterial infection cause 3.3-6 fold increased risk of ectopic pregnancy. Relative risk based upon ICMR

Multicentric Case Control Study (1990) was 6.4. Many cases of chlamydia salpingitis are indolent, cases may go unrecognized causing tubal damage and subsequent tubal pregnancy. Brunham et al. (1986) has brought forth a strong association between Chlamydia infection and tubal pregnancy with serologic tests for chlamydia. All these points bring forth the same fact into light that the recent change in sex life can cause pelvic inflammation and tubal damage in younger age groups causing more incidence of ectopic pregnancy in young, nulli or low paritywomen.

1) Previous abortion: History of abortion within the past two years was obtained in 5.9% of the patients. Rose et al. (2002) reported previous abortion as a risk factor in 25.8%. Tubal dysfunction or damage following abortion induced or otherwise appears to be a chief factor in these cases.

2) Previous ectopic gestation: In the present series 1 (2.9%) case had been operated for previous ectopic gestation, which is in concurrence with the studies of R. Narayanan et al. (1983) and Rose et al. (2002) who reported 3.2% of repeat ectopic pregnancy. Jeffcoate mentions that the risk is 15 times greater than the normal woman. Since tubal disease is nearly always bilateral there is a strong tendency for ectopic pregnancy to occur first on one side and then at a later date on the other.

3) Previous operations: There were two previous abdominal operations - appendicectomy and ectopic in the present series. In this study, 5.9% (2 cases) had previous tubal surgeries but the type of procedures they had undergone were not clear from their records. According to McCousland, (1980), electrocoagulation causes more tubal pregnancies.

Use of contraceptives and IUCD: In the present series IUCD was used by only one patient (2.9%) and OCP was used by two patients (5.9%). Throughout literature there are reports linking the use of various types of IUDs with the occurrence of ectopic pregnancy. March Banks (1998) quotes 1.6% incidence of ectopic

pregnancy in patients who were on progestin-only contraceptive. An incidence of 11.9%, 7.69% and 33% ectopic pregnancy were quoted in relation to the use of intrauterine devices by March Banks et al. (1998), Savitha Devi (2000) and Wills and Mohanambal (1991) respectively.

VI. Conclusion

There is an increase in the incidence of ectopic pregnancy and a decrease in maternal mortality due to ectopic pregnancy, during the past two decades. The treatment modality also has evolved from radical to conservative surgery and even to medical and expectant management. But the paradox noted in this institution, is that even though the early diagnostic tools were available, we had to manage most of our patients as surgical emergencies, as they were brought late in the trial, with established diagnosis of ruptured ectopic pregnancy. It is therefore important that all the physicians should be sensitive to the fact that in the reproductive age group any women presenting with pain in the lower abdomen, diagnosis of ectopic pregnancy should be entertained irrespective of the presence or absence of amenorrhoea, whether or not she has undergone sterilization.

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