

# Proportionate Morbidity & Risk Factors of Ectopic Pregnancy

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The study was carried out to find out the morbidity related to ectopic pregnancy and also to study the associated risk factors and management, during one year period at a teaching hospital. Out of a total of 3100 births there were 31 acute ectopic pregnancies, giving a frequency of 1%. Majority (58.6%) of the patients were in their twenties and 70.9% were gravida 2-4. PID was identified as the main risk factor (45%). The major site for the ectopic was the fallopian tube (90.3%). Majority of the patients (74%) came with ruptured ectopic and laparotomy with salpingectomy was the main treatment carried in these patients, as well as in 3 other patients who failed the medical treatment with methotrexate.

**Key words:** Pregnancy, ectopic, rupture, laparotomy

Ectopic pregnancy is defined as the pregnancy outside the uterine endometrium, common sites being tubes, ovaries, abdomen, cervix and vagina.

Ectopic pregnancy is a potentially life threatening condition that represents the loss of pregnancy and also have the long term consequences of infertility<sup>1</sup>. In UK it is the most common cause of maternal death in early pregnancy<sup>2</sup>. Ectopic pregnancy is a major health problem of women during childbearing age worldwide. It is a high risk diagnosis that is increasing in frequency and is still commonly missed in the emergency department<sup>3</sup>.

Majority of the patients in our population present late, mostly when ectopic has already ruptured and patient is in shock. With the frequent use of trans vaginal sonography and  $\beta$ -HCG early diagnosis is now possible. This has allowed more ectopic pregnancies to be managed conservatively with systemic methotrexate, hence avoiding surgical morbidity, blood loss and improvement in fertility chances.

The aims and objectives were to study proportionate morbidity of the patients presenting with ectopic pregnancy. It also aimed at identifying various risk factors and management carried out.

## Material & methods

The study was conducted at Gynae unit 1 of services hospital from July 2003 to June 2004. All the patients admitted with the diagnosis of acute ectopic pregnancy were included. Diagnosis was established on the basis of history, examination, TVS and  $\beta$ -HCG estimation. Patients coming with haemoperitoneum and in shock were initially stabilized, preferably with blood transfusions, before carrying out laparotomy. Un ruptured ectopic pregnancy with less than 3 cm dilatation and  $\beta$ -HCG levels less than 5000IU were subjected to systemic single injection of Methotrexate (1mg/kg), and were followed for one week by  $\beta$ -HCG and sonography. In case of failure of the medical management, surgical treatment in the shape of laparotomy was carried out.

## Results

Total no of births during the study period were 3100. There were 31 ectopic pregnancies, giving frequency of 1%. Peak age was 20-29 years (58.6%), with 70.9% being gravida 2-4. It was also found that 45% (14/31) patients had a H/O pelvic infection, and 8 of these females also had infertility. Other risk factors included previous pelvic surgery (29%), IUCD (3%), uterine abnormality (6.4%). Majority of the patients (70%) were not using any contraception. 36% patients also gave the H/O of induced abortion.

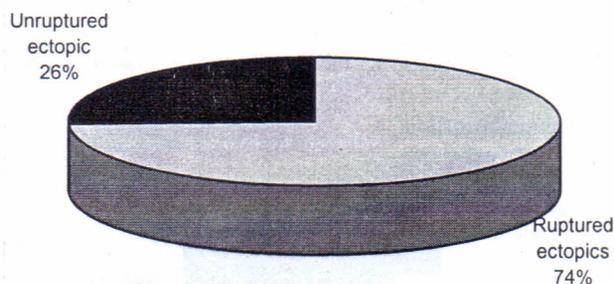
Regarding the site, 90.3% had a tubal ectopic with 96.4% right sided. 74% presented with ruptured ectopic, for which laparotomy and salpingectomy were done. Rest (8) of the patients had unruptured ectopic and were given I/V Methotrexate. 5/8 of these un ruptured pregnancies resolved while 3 had to undergo surgical management.

## Proportionate morbidity of ectopic pregnancies

Morbidity status	Frequency	%age
Ectopic pregnancy Yes	31	1
Ectopic pregnancy No	3069	99
Total	3100	100

95% CI for ectopic pregnancy=0.69 to 1.43%

## Proportion of ruptured ectopic pregnancy



95% CI for ruptured ectopic=55.07 to 87.46% (n=31)

## Risk factors profile among the ectopic patients (n=31)

Risk factors	Frequency	%age	95% CI
Pelvic Inflammatory disease	14	45.16	27.78 - 63.70 %
Previous surgeries	9	29.03	14.88 - 48.23 %
Uterine anomalies	2	06.45	01.12 - 22.84%
IUD	1	03.23	0.16 - 18.51 %
No risk factor	5	16.13	06.09 - 34.47 %

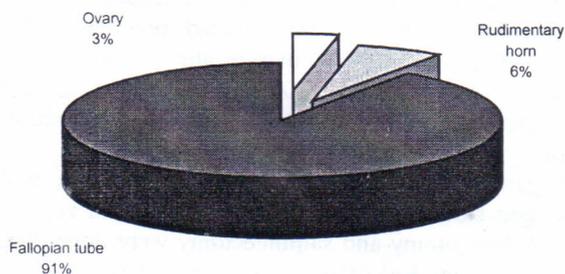
## Age profile of the patient with ectopic morbidity (n=31)

Risk factors	Frequency	%age
Less than 20 years	5	16.12
20 to 29 years	18	58.06
30 to 39	8	25.80

## Pregnancies profile (n=31)

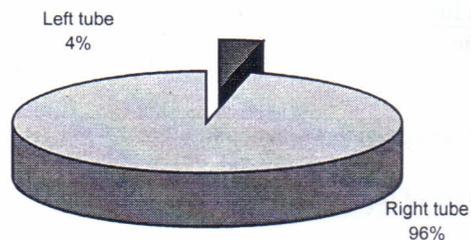
Risk factors	Frequency	%age	95% CI
Primi gravida	6	19.35	8.12 to 38.05 %
Gravida 2-4	22	70.96	51.76 to 85.11 %
Gravida 5-7	3	9.67	2.53 to 26.90 %

## Location of ectopics



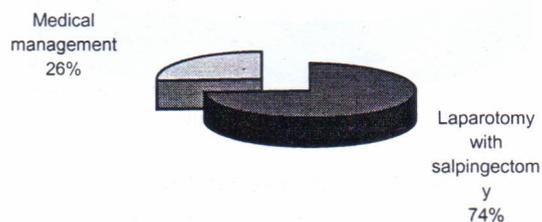
95% CI for fallopian tube ectopics=73.09 to 97.46

## Side of fallopian tube



95% CI for right fallopian tube ectopics=79.76 to 99.81%

## Management profile



## Discussion

Ectopic pregnancy presents a medical emergency that requires prompt treatment in order to contain risks of maternal death and morbidity and also loss of fertility. It can easily be mistaken for acute appendicitis or intestinal colic in early stages.

It is still a major cause of maternal mortality in developed countries like UK and USA<sup>4</sup>. The incidence for ectopic pregnancy is around 1% in majority of studies worldwide<sup>5,6,7</sup>. The interesting thing is that the incidence is on the rise, despite the availability of modern investigations like sonography and  $\beta$ -HCG estimation<sup>2,5</sup>. The new advancements not only help in early diagnosis of the problem, but can also be the reason for increased incidence. The rise in the incidence may also be attributed to the increase in the pelvis infections as regards varied sexual practices. ICSI/IVF are also definite associations<sup>8</sup>.

Most (74.6%) of the ectopics occur in young age groups. This may be due to the simple fact that this is the peak reproductive age.

PID was been the major risk factor (45%) in this study, similar results have been reported by other studies<sup>6,7,9,10</sup>. Out of these patients almost 50% were infertile. Infertility is an independent risk factor as well<sup>11</sup>. Most of our patients take treatment for most of their gynaecological problems and induced abortion (36% in this study) from untrained TBA's, leading to an increase in the pelvic infections. Simple improvement of hygienic conditions and use of antibiotics can reduce the incidence of PID<sup>12</sup>.

Pelvic surgery leading to adhesions and alteration of tubal anatomy was another important risk factor (29%). 4/9 had caesarian section, 2 had appendectomy, 2 had BTL while 2 had previous ectopic. Other risk factors described are smoking and multiple sex partners, which was not recognized in this study<sup>9,10</sup>.

Of the 5 patients with no risk factors, 2 were nulliparous with no infertility and 3 had prior vaginal deliveries. 74% of our patients presented with ruptured ectopic and in shock. Late presentation is a tragedy, which not only puts the life of the patient at risk but also makes the conservation of tubes impossible. Late presentation has been identified in other studies from the developing countries<sup>5</sup>. Fortunately we had no mortality but case fatality of 1-3% has been reported from some African studies, and is 10 times higher than that reported for developed countries<sup>13</sup>.

Main management done in this study was laparotomy (83%), laparoscopic facility was not available in our unit. Laparoscopic salpingectomy or salpingotomy is the preferred treatment now days. Salpingectomy is the most common procedure done (74% in this study), whether laparoscopically or by laparotomy worldwide<sup>6,7,14,15</sup>.

The availability of early diagnosis has allowed this problem to be treated medically as well, by giving methotrexate, systemically or locally in to the sac by

laparoscope. Potter MB has shown a success rate of 85%, by a single injection<sup>16</sup>. Similar results of 81% and 86% have been reported in other studies as well<sup>17,18</sup>. The success rate for methorexate in this study was 62%, but due to the small number of patients conclusions cannot be drawn.

### Conclusion

Technological advances allow ectopic pregnancy to be diagnosed before severe clinical symptoms arise. Creating awareness amongst midwives, GP's regarding early diagnosis can contribute to decrease the mortality, morbidity and fertility loss related to ectopic pregnancy.

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