

## Ectopic Pregnancy – An Experience in Medical Hospital and Research Institute



### Medical Science

**KEYWORDS:** Ectopic pregnancy, Tubal surgery

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### ABSTRACT

**Introduction:** Ectopic pregnancy is an obstetric emergency which is increasing in incidence. There are many risk factors associated with ectopic pregnancy and tubal damage is the most common factor. Women with ectopic pregnancy can have varied clinical presentation. Diagnosis is made from clinical presentation, beta HCG and ultrasound. Early diagnosis is the key for medical management and conservative surgery.

**Objectives:** To study the risk factors, clinical presentation and management of ectopic pregnancy.

**Methods:** Data was collected retrospectively from the case records of women admitted with the ectopic pregnancy over the period of five years.

**Results:** 104 patients were admitted with the diagnosis of ectopic pregnancy. 33.5% of the patients were in age group of 25-29 yrs. 29% of the women were primigravida. The risk factors associated were prior surgeries in 27.9%, history of medical and surgical abortion in 17.3% and 11.5% respectively. 7.85% of the women had prior ectopic pregnancy. 14.4% of patients had undergone tubal sterilization. The classical symptom of amenorrhea, pain abdomen and bleeding per vagina was present in 24.03%. 31.8% of the women had amenorrhea and pain abdomen and 1% had uterine bleeding alone. Abdominal tenderness was present in 75% and abdominal distension in 24% of patients with ruptured ectopic pregnancy. 13.5% of women presented with adnexal mass while tenderness was present in 38.5%. 5.8% had undergone medical management, one of them failed. 86.5% underwent surgical treatment. The site of ectopic was ampullary region in 25% and tubal abortion in 25%.

**Conclusion:** Ectopic pregnancy can affect any woman in the reproductive age group irrespective of contraception and tubal sterilization and even in the absence of risk factors. It is very essential to sensitize the junior doctors in the emergency department. Emphasis should be done in the clinical posting which will help during the internship. Early diagnosis is essential for conservative treatment and will also reduce the need for blood transfusion. Many of the clinicians fail to give importance to the patients' and their care givers' psycho social needs, which need to be tailored along with the counseling unit in the department or in the hospital.

**Introduction:** Ectopic pregnancy develops following implantation of the blastocyst anywhere other than the endometrial cavity of the uterus. Fallopian tube is the commonest site of ectopic pregnancy. It is one of the obstetric emergencies which can lead to maternal mortality. The incidence of ectopic pregnancy is increasing with the increasing risk factors. There are various risk factors involved in the etiopathogenesis of ectopic pregnancy. Tubal damage occurring secondary to PID and tubal surgeries is the major cause for ectopic pregnancies. Other risk factors are use of IUCD, hormonal contraceptives, ART, previous ectopic pregnancy, infertility, tubal anomalies, multiple sex partners, earlier age at intercourse, cigarette smoking, vaginal douching and in utero exposure to Diethyl stilbestrol<sup>1</sup>.

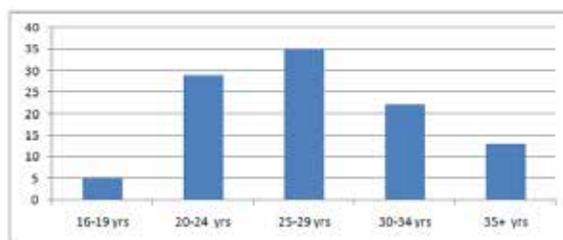
Women with ectopic pregnancy can present with or without amenorrhea in the reproductive age group, with pain abdomen and bleeding PV. An adnexal mass may not be elicited in most patients because of marked tenderness. Beta HCG and sonological examination are useful diagnostic tools. With early diagnosis, patients are subjected to medical management or conservative surgery depending on the criteria. Patients who come late often have substantial tubal damage and hence the tube cannot be conserved. This research was taken to find out the risk factors, clinical presentation and management of the women seeking treatment at KIMS hospital.

**Material and methods:** Case records with the diagnosis of ectopic pregnancy confirmed through ultrasound and with positive urine pregnancy test were identified and the case records were retrieved from the Medical Records Department over a period of five years (2010 to 2014) at Kempegowda Insititue of Medical sciences and Research centre, Bangalore. Socio demographic fac-

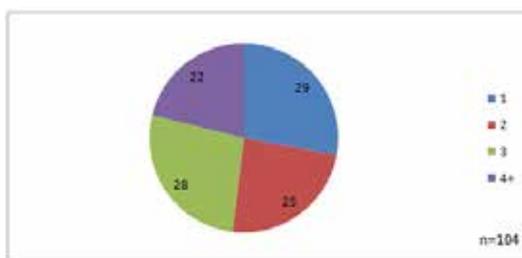
tors, obstetric history, surgical history, history of infertility, history of contraceptive use, PID, STD, HIV/AIDS, symptomatology, examination findings, scan findings and the management were noted from the records.

### Results:

**Graph I: Distribution of age of the women present with ectopic pregnancy**



**Graph II: Distribution of gravidity index of the women with ectopic pregnancy**



**Table I shows Clinical presentation of the women with ectopic pregnancy**

Variables	Mean and SD
<b>Symptoms</b>	
Amenorrhoea	35.46±26.878
Pain abdomen	4.0952±6.59666
Bleeding PV	2.649±5.5349
Variables	Percent%(n=104)
<b>Signs</b>	
Abdominal distension	24%
Abdominal tenderness	75%
Forniceal mass	13.5%
Forniceal tenderness	38.5%

**Table II shows risk factors of the women with ectopic pregnancy**

	Percent%(n=104)
<b>Medical abortion</b>	<b>17.3%</b>
<b>Surgical abortion</b>	<b>11.5%</b>
<b>Contraceptive use</b>	<b>15.4%</b>
<b>Previous surgeries</b>	<b>27.9%</b>
<b>Previous ectopic</b>	<b>7.8%</b>
<b>Infertility</b>	<b>7.7%</b>
<b>PID</b>	<b>1.0%</b>
<b>HIV</b>	<b>1.0%</b>

The study data was collected from case records over a period of five years and the incidence rate was 1.18% of deliveries. The age distribution of the patients was 35% and belonged to 25-29yrs which was the highest among the study population, while 13% of the women were above 30yrs. In the present study all the women in the study group belonged to the category of house wife. As shown in the graph, there is not much variation in the gravidity index.

It was also noted that 17.3% of the patients had prior medical abortions of which 1% had 2 prior abortions. Study also observed that 1.5% of the patients had prior caesarean delivery and 7.8% of the patients had prior ectopic pregnancy. Among the sample 27.9% of the women had history of prior surgeries and tubal sterilization accounted for 14.4%. 3.9% had other tubal surgeries like salpingostomy, salpingectomy and tubal recanalisation. Caesarean delivery was noted in 1.9%, appendicectomy, adhesioysis, cystectomy and diagnostic laparoscopy in 1% each.

Majority of the (84.6%) women had no history of usage of any contraceptive measures and 15.4% had used contraception of which 9.61% used IUCD, lower number of women had taken (1.92%) OCP. Clinical presentation with symptoms of amenorrhoea, pain abdomen and bleeding per vagina was seen in 24.03% of the patients. Women presented with a mean of 35.46 days of amenorrhoea. 31.8% had amenorrhoea and pain abdomen. Pain abdomen was present for a mean of 4.09 days and bleeding pv of 2.64 days. On examination abdominal tenderness was elicited in 75% of the patients. Abdominal distension is usually late to occur and only with massive hemoperitoneum. Adnexal mass is though one of the diagnostic criteria but it is elicited in 13.5% of the patients. Forniceal tenderness and cervical movement tenderness was seen in 38.5% of patients.

Out of 104 cases 5.8% of the patients had criteria for medical management, 1 patient had failure and had undergone surgical management and 86.5% had undergone surgical management which was reported highest and better outcome by the women. The study also noted that 91.1% had undergone laparotomy of which 52.9% was radical in the form of total salpingectomy or salphingo oophorectomy and 7.7% were subjected to laparoscopic surgery. Site of ectopic noted on laparotomy which were equally distributed in ampulla 25% and tubal abortion 25%. The results were also noted that 72.1% had received blood transfusion and 1% had massive transfusion. None of the patients required ICU admission.

**Discussion:**

Ectopic pregnancy is one of the acute emergencies which occurs in the early pregnancy and can be a cause of maternal morbidity and mortality. Any woman in the reproductive age group presenting with acute abdomen, ectopic pregnancy should be excluded. Presence of risk factors could increase the degree of suspicion. Various studies were reviewed; it was found that the incidence rate of ectopic pregnancy varies across countries and also reported incidence of ectopic pregnancy varies widely between developed and developing countries.<sup>2,19</sup> A review by Liskin suggested an increase in incidence of ectopic pregnancy from 1960s until the middle of 1980s.<sup>2</sup> This review pointed at the highest ectopic pregnancy incidence rates in African countries (0.5-2.3% of live births) whereas low incidence rates were reported in Asia and Middle East during the same time period (0.4-0.6% of live births)<sup>2,17</sup>. Porwal Sanjay et al. reported in their study that, in India the incidence of ectopic pregnancy reported by the Indian council of medical research (ICMR 1990) task force in their multicentric case control study was 3.12 per 1000 pregnancies or 3.86 per 1000 live births in the hospital reported pregnancies. Their study group had a incidence rate of 2.461 per 1000 deliveries<sup>3,4,5</sup>. In a study by Rashmi Gaddagi et al incidence of ectopic was 1.399 pregnancies<sup>7</sup>. In our study the incidence of ectopic pregnancy was found to be 1.18% of deliveries. Increasing age has been considered as a risk factor; on the contrary our results reflected an increased incidence among women in the age group 16-30yrs. The findings of our study reported that 35% of the women were in the age group of 25-29yrs while study by Porwal Sanjay et al had shown 74.2% belonged to the age group of 25-30 years<sup>4</sup>, another study by Khaleequ et al also found similar findings<sup>8</sup>.

In our study there was no variation with increasing gravidity index. Similar results were found by Jean Bouyer et al, the finding of Shradha Shetty K et al. reported that 83.9% were multiparas and 16.1% were primiparas<sup>9,10</sup>. In our findings multigravidas (72.1%) were more affected than the primigravida(27.9%), whereas Porwal Sanjay et al. found 40% to be primigravidas<sup>4</sup>.

Clinical diagnosis of ectopic pregnancy by the triad of amenorrhoea, pain abdomen and bleeding pv will not be there in all the cases. Among our patients the triad was present in 24.03% while 31.8% had amenorrhoea and pain abdomen. Women presented with a mean of 35.46 days of amenorrhoea, in the study by Porwal sanjay et al 85% of cases had 6 to 10 weeks of amenorrhoea and only 15% presented with amenorrhoea more than 10 weeks<sup>4</sup>. The present study found pain abdomen for a mean of 4.09 days and bleeding pv of 2.64 days. Palpable adnexal mass is a diagnostic criteria but cannot be elicited in majority of the patients because of the tenderness; it was elicited in 13.5% of the patients. Forniceal tenderness and cervical movement tenderness was seen in 38.5% of patients. Similar findings were reported in NICE guidelines<sup>11</sup>.

Risk factors observed in this study were prior abortions, prior ectopic pregnancy, contraceptive use, prior pelvic surgeries and tubal surgeries. The presence of risk factors can aid in the diagnosis of ectopic pregnancy but it can occur in women even in the absence of any risk factors. About one third of women with an ectopic pregnancy will have no known risk factors (NICE guidelines)<sup>11</sup>. In this study 28.8% had history of prior abortion (medical and surgical) and in the study by Samiya Mufti, 21.05% had h/o abortion<sup>12</sup>. Prior pelvic surgeries and tubal surgeries can cause adhesions and alter the normal anatomy and tubal function. In the present study h/o prior surgeries (27.9%) and tubal surgeries (18.3%) were present and similar risk factors were seen in the studies by Shradha Shetty and Samiya Mufti<sup>10,12</sup>. Contraceptive failure is associated with increased risk as the tubal motility is altered due to progesterone and the chances of implantation in the tube are high and also other than the bar-

rier method other contraceptives do not protect against STD/PID. Shradha shetty and Porwal Sanjay reported CuT use in 6.4% and 2.4% respectively<sup>10,14</sup>. Current study focused on all the contraceptive measures and found that 15.4% had used contraception in the form of hormonal pills, IUCD and barrier method. In our clinical experience we have observed that majority of the women opt for permanent tubal sterilization after completion of their family.

With the use of ultrasound in the first trimester, ectopic pregnancies are being picked up earlier. 1500IU of  $\beta$ HCG is considered as the discriminatory zone when a gestational sac should be visible on ultrasound, in the absence of which there is a strong suspicion of ectopic pregnancy. Ultrasound and urine pregnancy test were used among all the patients for diagnosis and  $\beta$ HCG estimation was used in the patients with inconclusive sonological findings, maximum number of patients had positive sonological features. PUL can pose a challenge in the management and we had 7 patients with PUL who were followed up with  $\beta$ HCG. On follow up they were found to have ectopic pregnancy and were subjected to medical management on satisfaction of the criteria (NICE guideline)<sup>11,18</sup>. In our study we had failure of medical line in 1 patient who underwent surgical management. Unfortunately most of the patients were admitted with ruptured tubal ectopic pregnancy which is the commonest presentation in the developing countries and which is approximately 70 to 95%<sup>(13,14,15-16)</sup>

With the advent of minimally invasive surgeries laparoscopy is increasingly being used in the management of ectopic pregnancy. If the tubal damage is less conservative surgery like salphingotomy, salphingostomy and milking of the tube can be done to preserve the tube for future pregnancies. However Ray et al reviewed various studies and it has shown there is an increased risk of ectopic pregnancy occurring in the same tube<sup>17</sup>. Laparotomy has been the main modality of management in the lesser developed countries with the patients presenting with ruptured tubal ectopic pregnancy. In the current study the main modality was laparotomy (91.1%) and total or partial salphingectomy and salphingoophorectomy were done. Ampullary region of the tube is commonly affected in ectopic and our study findings revealed lower percentage (25%) While other studies, Porwal Sanjay et al found ampullary portion of tubes in 40%<sup>4</sup> and Priti S Vyas et al found in 42.5%<sup>6</sup>. Patients with the ruptured tubal ectopic pregnancy often present with hemodynamic changes and in shock at times and hence the Management will also include correction of shock, anaemia and transfusion of blood products, 72.1% of our patients had received blood transfusion. There was

no maternal mortality in our study. Similar were reported by Shradha Shetty K et al<sup>10</sup>.

**Conclusion:** Ectopic pregnancy can affect any woman in the reproductive age group irrespective of contraception and tubal sterilization and even in the absence of risk factors. The patient might land in department of surgery or medicine and referred to Gynaec department later and hence can cause increase morbidity and mortality. It is very essential to sensitize the junior doctors in the emergency department. Emphasis should be done in the clinical posting which will help during the internship. Early diagnosis is essential for conservative treatment and will also reduce the need for blood transfusion. Many of the clinicians fail to give importance to the patients' and their care givers' psychosocial needs, which need to be tailored along with the counselling unit in the department or in the hospital.

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