

**An Epidemiological Study Evaluating Clinico-Demographic Profile and Outcome of Chronic Ectopic Pregnancy**Sadhna Kumari<sup>1</sup>, Sushma Singh<sup>2</sup>, Geeta Sinha<sup>3</sup><sup>1</sup>Senior Resident, Department of Obstetrics and Gynaecology, Patna Medical College and Hospital, Patna, Bihar, India<sup>2</sup>Assistant professor, Department of Obstetrics and Gynaecology, Patna Medical College and Hospital, Patna, Bihar, India<sup>3</sup>Professor and Head of department, Department of Obstetrics and Gynaecology, Patna Medical College and Hospital, Patna, Bihar, India

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Conflict of interest: Nil

**Abstract****Aim:** The aim of the present study was to assess the clinical profile and outcome of chronic ectopic pregnancy in tertiary care hospital.**Methods:** This prospective observational study was undertaken in the Department of Obstetrics & Gynecology, Patna Medical College and Hospital, Patna, Bihar, India on pregnant women with persistent chronic ectopic pregnancies. During the study period of one year, 9940 patients were delivered to the institute. 85 patients were diagnosed with ectopic pregnancy. Hence, the incidence of ectopic pregnancy was 0.85% in our study. Only 10 patients were diagnosed in chronic ectopic frequency (CEP).**Results:** 30% cases were aged  $\leq 30$  years while rest of the cases was aged more than 30 years. The mean age was  $34.56 \pm 5.0$  years. 40% (4 cases) were nullipara, 60% (6 cases) were primipara and none of cases were multipara. Our center being tertiary center, 40% (4 cases) were referred from other centers while 60% (6 cases) were diagnosed at our hospital. Majority of the patients 60% (6 cases) presented at 6 to 8 weeks of gestation followed by 40% (4 cases) at less than 6 weeks of gestation. Amenorrhea and pain abdomen was the most common complaint seen in 100% (7 cases) followed by Vaginal Bleeding/Spotting (60%) and Fainting Attack (30%). 80% cases were positive UTP. All of the patients were positive in Culdo/Paracentesis. The beta-HCG levels of more than 5000mIU/ml was observed in 10% (1 case), beta-HCG of less than 1500mIU/ml was in 60% (6 cases), and beta-HCG in the range of 3000-5000 mIU/ml was in 30% (3 cases). All of the patients had hemoglobin range of 7-10 gm/dl.**Conclusion:** Chronic ectopic pregnancy is rare and is often misdiagnosed preoperatively. Chronic ectopic pregnancy should be the provisional diagnosis in a young multiparous woman with AUB and/or abdominal pain, if the ultrasound shows the presence of a heterogeneous mass in the POD and/or adnexa, with no internal vascularity on CD.**Keywords:** Chronic ectopic pregnancy, HCG, UTPThis is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.**Introduction**

Ectopic pregnancy (EP) is a condition presenting as a major health problem for women of childbearing age. The incidence of EP varies with the population, but it has been accounted for 1-2% of all reported pregnancies. Accordingly, it is speculated that the main risk factors for ectopic pregnancy are conditions or procedures, which can result in tubal damage. [1] The risk is increased by several factors: previous ectopic pregnancy, tubal damage from infection (pelvic inflammatory disease) or surgery, a history of infertility, therapy for in vitro fertilization, increased age, and smoking. The risk of an ectopic

pregnancy is increased 7-fold after an episode of acutesalpingitis. This is particularly true if the causal agent is Chlamydia trachomatis. [2] With tubal pregnancy, because the fallopian tube lacks a submucosal layer, the fertilised ovum promptly burrows through the epithelium. The zygote comes to lie near or within the muscularis, which is invaded by rapidly proliferating trophoblast. Potential outcomes from this include tubal rupture, tubal abortion, or pregnancy failure with resolution. The classic triad is amenorrhea followed by pain and vaginal bleeding. [3]

Diagnosis requires a high index of suspicion as the classic triad of amenorrhoea, abdominal pain and vaginal bleeding is not seen in majority of cases. Women may present with non-specific symptoms, unaware of an ongoing pregnancy or even present with haemodynamic shock. The contribution of EP to the maternal mortality rates in developing countries including India is not precisely known, with data from few studies indicating 3.5-7.1% maternal deaths due to EP. [4,5]

Ectopic derives from the Greek word “ektapos”, meaning out of place. Unfortunately ectopic pregnancy is very much common place, with rising incidence globally. Ruptured ectopic is potentially life-threatening and requires prompt suspicion and management. Identifying ectopic pregnancy has always challenged the ingenuity of the obstetrician and gynecologist by its bizarre clinical picture. This often leads to delay in diagnosis with disastrous consequences. It is therefore the leading cause of maternal mortality and morbidity in the first trimester accounting for 10–15% of all maternal deaths. [6] The prevalence of ectopic pregnancy among women with first trimester bleeding and pain or both ranges from 6 to 16% in the United States. [7] In a multicentric case-control study in India in 1990, the incidence of ectopic pregnancy was found to be 3.12 per 1,000 pregnancies. [8]

The aim of the present study was to assess the clinical profile and outcome of chronic ectopic pregnancy in tertiary care hospital.

### Materials and methods

This prospective observational study was undertaken in the Department of Obstetrics & Gynecology, Patna Medical College and Hospital, Patna, Bihar, India from January 2023 to December 2023 on pregnant women with persistent chronic ectopic pregnancies. During the study period of one year, 9940 patients were delivered to the institute. 85 patients were diagnosed with ectopic pregnancy. Hence, the incidence of ectopic pregnancy was 0.85% in our study. Only 10 patients were diagnosed in chronic ectopic frequency (CEP).

The study included all eligible prenatal clinic and labor room patients. Prenatal clinic and labor room patients with clinical features and persistent chronic ectopic pregnancy diagnosis were included after written informed agreement. All pregnant women in the first trimester attending prenatal clinic and labor room of Department of OBG with confirmed chronic ectopic pregnancy and willing to participate were included. Intrauterine pregnancies and other hemoperitoneum causes were excluded. Data were presented as frequency and percentages.

### Results

**Table 1: Baseline Characteristics**

Baseline Characteristics	Frequency (N=10)	Percentage (%)
<b>Marital Status</b>		
Married	10	100
Unmarried	0	0
<b>Age Categories (Years)</b>		
≤30	3	30
>30	7	70
<b>Age Mean (Years)</b>	34.56 ± 5.0	
<b>Parity</b>		
Nullipara	4	40
Primipara	6	60
Multipara	0	0
<b>Referral Status</b>		
Non-Referred	6	60
Referred	4	40
<b>Gestational age at time of admission</b>		
≤6 weeks	4	40
6wks, 1day to 8 weeks	6	60
<b>Symptoms</b>		
Amenorrhoea	10	100
Abdominal Pain	10	100
Vaginal Bleeding/Spotting	6	60
Fainting Attack	3	30
<b>UPT</b>		
Positive	8	80
Negative	2	20
<b>Culdo/Paracentesis</b>		
Positive	10	100
Negative	0	0

30% cases were aged  $\leq 30$  years while rest of the cases was aged more than 30 years. The mean age was  $34.56 \pm 5.0$  years. 40% (4 cases) were nullipara, 60% (6 cases) were primipara and none of cases were multipara. Our center being tertiary center, 40% (4 cases) were referred from other centers while 60% (6 cases) were diagnosed at our hospital. Majority of the patients 60% (6 cases) presented at

6 to 8 weeks of gestation followed by 40% (4 cases) at less than 6 weeks of gestation. Amenorrhea and pain abdomen was the most common complaint seen in 100% (7 cases) followed by Vaginal Bleeding/Spotting (60%) and Fainting Attack (30%). 80% cases were positive UTP. All of the patients were positive in Culdo/Paracentesis.

**Table 2: Beta-HCG levels in the patients**

Beta-HCG levels (mIU/ml)	Frequency (N=10)	Percentage (%)
<1500	6	60
1500-3000	0	0
3000-5000	3	30
>5000	1	10
Hemoglobin levels (gm/dl)		
<5	0	0
5-7	0	0
7-10	10	100%
>10	0	0

The beta-HCG levels of more than 5000mIU/ml was observed in 10% (1 case), beta-HCG of less than 1500mIU/ml was in 60% (6 cases, and beta-HCG in the range of 3000-5000 mIU/ml was in 30% (3 cases). All of the patients had hemoglobin range of 7-10 gm/dl.

**Table 3: Site of Ectopic**

Site of Ectopic	Frequency (N=10)	Percentage (%)
Ampulla	8	80
Fimbria	2	20

Most common site of ectopic pregnancy was ampulla region (80%), followed fimbrial end of the tube 20% (2 cases).

**Table 4: Management**

Management	Frequency (N=10)	Percentage (%)
Surgical Salpingectomy	8	80
Surgical Salpingo-oophorectomy	2	20

The surgical salpingectomy was the most common procedure done for chronic ectopic pregnancy in 80% (8 cases) while 20% cases were Surgical Salpingo- oophorectomy.

**Table 5: Blood transfusion**

Blood Transfusion	Frequency (N=10)	Percentage (%)
1 Unit	6	60
2 Unit	3	30
3 Unit	1	10

Out of 10 patients of chronic ectopic pregnancy 100% (10 cases) required blood transfusion. It was further observed 60% (6 cases) were transfused with one units of blood, 30% (3 cases) each were transfused with two and 10% were transfused with three units of blood.

**Discussion**

An ectopic pregnancy (EP) is a medical issue that arises during the first three months of pregnancy when an embryo attaches itself to a location outside of the uterus. [9] The reported incidence in India is

within the range of 0.91-2.3%. [9,10] The primary risk factors for ectopic pregnancy (EP) are a prior history of abortions and pelvic inflammatory illness (PID). [11,12] Due to the fact that the typical symptoms of amenorrhea, abdominal pain, and vaginal bleeding are only seen in 30% to 40% of patients with ectopic pregnancy (EP), a diagnosis necessitates a strong level of clinical suspicion. [13] The spectrum of the EP include both asymptomatic individuals and those who have had rupture and come in a state of shock. Delayed diagnosis may lead to higher rates of illness and, in some cases,

even death. [14] If left untreated, it might potentially have adverse effects on her future fertility. [15]

In this study 30% of the patients were aged 30 years or less, while the remaining cases were aged over 30 years. The average age was  $34.56 \pm 5.0$  years. Out of the total instances, 40% (4 cases) were nullipara, 60% (6 cases) were primipara, and none of the cases were multipara. All patients tested positive for Culdo/Paracentesis. [16] found that the average age of the study population was  $28.28 \pm 4.19$  (1SD) years, with a range of 26.78 to 29.78 years. The age of the patients in the study ranged from 20 to 38 years, with a median age of 28 years. The research conducted by Ugur et al [17] revealed that the most prevalent issues reported were pelvic discomfort and vaginal bleeding. Additionally, a significant number of individuals had a history of amenorrhea. As a tertiary facility, 40% (4 instances) of our patients were referred from other hospitals, while 60% (6 cases) were diagnosed at our hospital. The majority of patients, accounting for 60% (6 instances), presented between 6 to 8 weeks of gestation, whereas 40% (4 cases) appeared at less than 6 weeks of gestation. The most prevalent complaint seen in all instances (100%, 7 cases) was amenorrhea and abdominal discomfort, followed by vaginal bleeding/spotting (60%) and fainting attacks (30%). 80% of the patients tested positive for UTP. All of the patients tested positive in the Culdo/Paracentesis procedure.

The most prevalent symptom seen in all instances (100%, 7 cases) was amenorrhea and abdominal discomfort, followed by vaginal bleeding/spotting (60%) and fainting attacks (28.58%). 85.72% of the patients tested positive for UTP. All of the patients tested positive in the Culdo/Paracentesis procedure. 10% (1 instance) had beta-HCG levels over 5000mIU/ml, whereas 60% (6 cases) had beta-HCG levels below 1500mIU/ml. Additionally, 30% (3 cases) fell between the range of 3000-5000 mIU/ml. All patients had a hemoglobin level ranging from 7 to 10 gm/dl. All individuals had a hemoglobin level within the range of 7-10 gm/dl. The ampulla region is the most frequent location for ectopic pregnancy, accounting for 80% of cases. The fimbrial end of the tube is the second most common site, representing 20% of cases (2 instances). Out of the total instances, 80% (8 cases) had a surgical salpingectomy, which is the most frequently performed surgery for persistent ectopic pregnancy. The remaining 20% of patients underwent a surgical salpingo-oophorectomy. According to the research conducted by Wakankar and Kedar [18], out of a total of 52 instances, 51 were treated with surgery while just one case (1.9%) got medicinal treatment. The majority of patients (65.38%) had partial salpingectomy, while 19.23% underwent total salpingectomy. Ranji et al<sup>11</sup> observed that expectant management was provided in 15.9% of cases,

whereas medicinal treatment was supplied in 29.4% of cases. Surgeries were performed in 47.9% of patients. Salpingectomy was performed as a standalone procedure in 78.1% of patients, whereas laparoscopy was used in 15.1% of instances. All 10 individuals with persistent ectopic pregnancy needed blood transfusion. It was noted that 60% (6 instances) received a single unit of blood, whereas 30% (3 cases) received two units, and 10% received three units of blood.

### Conclusion

Chronic ectopic pregnancy is a rare illness that is often misdiagnosed prior to surgical intervention. If a young lady who has had several childbirths presents with atypical uterine bleeding and/or stomach pain, and an ultrasound shows a diverse mass in the pouch of Douglas and/or adnexa without any internal blood flow, the first diagnosis should be chronic ectopic pregnancy.

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