

Clinical-Demographic Profile and Outcome Assessment of Chronic Ectopic Pregnancy: A Retrospective Study

Mamta Kumari¹, Anamika², Ravi Kant Singh³

¹Senior Resident, Department of Obstetrics and Gynaecology, Vardhaman Mahavir Medical College and Safdarjung Hospital, Delhi, India

²Senior Resident, Department of Obstetrics and Gynaecology, Patna Medical College and Hospital, Patna, Bihar, India

³Consultant, Department of Urology, Satyadev Hospital, Patna, Bihar, India

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Corresponding Author: Dr. Anamika

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Abstract

Background: Chronic ectopic pregnancy (CEP) is characterized by low serum HCG levels and tolerance to methotrexate (MTX) treatment. Histologically, CEP is identified by a compact adnexal mass containing degraded chorionic villi, areas of necrosis, and multiple blood clots resulting from recurrent small ruptures in the fallopian tube wall. CEP often manifests as an asymptomatic pelvic mass with low serum hCG levels.

Methods: This retrospective study was conducted at the Department of Obstetrics & Gynaecology, Vardhaman Mahavir Medical College and Safdarjung Hospital, Delhi, India, for one year. The study enrolled pregnant women diagnosed with chronic ectopic pregnancies between June 2023 and May 2024. Eligible patients from prenatal clinics and labour rooms provided written informed consent.

Results: Beta-HCG levels ranged from 3000 to 5000 mIU/ml in 20% of cases, less than 1500 mIU/ml in 3 instances, and over 5000 mIU/ml in 1 case. Haemoglobin levels were between 7 and 10 g/dl across all patients. The most common sites of ectopic pregnancy were the ampulla (80%) and fimbria (20%). Surgical salpingectomy was performed in four out of five cases of prolonged ectopic pregnancy. Five patients required blood transfusions: one unit for 60% (3 cases), two units for 20% (1 case), and three units for another 20% (1 case).

Conclusion: Clinicians should consider persistent ectopic pregnancy as a differential diagnosis in young multiparous women presenting with abnormal uterine bleeding (AUB) and abdominal pain, especially if ultrasound reveals a heterogeneous mass in the pouch of Douglas (POD) and/or adnexa without internal vascularity on color Doppler imaging (CD).

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Introduction

Ectopic pregnancy (EP) is a condition where the embryo implants outside the uterus, typically occurring in the first trimester of pregnancy [1]. In India, its incidence ranges between 0.91% and 2.3% [1,2]. Major risk factors for EP include a history of abortions and pelvic inflammatory disease (PID) [3,4]. Diagnosis can be challenging as the classic symptoms of amenorrhea, abdominal pain, and vaginal bleeding are only present in 30% to 40% of cases, necessitating a high level of clinical suspicion [5].

The spectrum of EP ranges from asymptomatic cases to those with ruptured pregnancies leading to shock. Delayed diagnosis can significantly increase morbidity and, in severe cases, may lead to fatalities [6]. Moreover, delayed or inadequate treatment of EP can adversely affect future fertility [7].

Therefore, prompt and effective management is crucial to mitigate these risks.

CEP represents a variant of EP where human chorionic gonadotropin (HCG) levels in the blood are low or undetectable, and the condition shows tolerance to methotrexate (MTX) treatment. Diagnosis of CEP can be challenging and may complicate the management of EP patients. It often follows a prolonged, indolent clinical course and may resolve spontaneously [8]. Histologically, CEP is identified by a compact adnexal mass containing necrotic tissue, numerous blood clots, and degraded chorionic villi due to repeated small ruptures of the fallopian tube wall. Clinically, CEP presents as a pelvic mass with minimal symptoms and low or absent HCG levels in the bloodstream [9].

Methods

This retrospective study was undertaken in the Department of Obstetrics & Gynaecology, Vardhaman Mahavir Medical College and Safdarjung Hospital, Delhi, India, for one year, on pregnant women with persistent chronic ectopic pregnancies.

This one year study included all eligible prenatal clinic and labour room patients. Prenatal clinic and labour 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 labour 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

During the study period of one year, 8,815 patients were delivered to the institute. Seventy-two patients were diagnosed with ectopic pregnancy. Hence, the incidence of ectopic pregnancy was 0.81% in our study. Only 5 patients were diagnosed in chronic ectopic frequency (CEP).

Table 1: Baseline Characteristics

Baseline Characteristics	Frequency (N=5)	Percentage (%)
Marital Status		
Married	5	100%
Unmarried	0	0
Age Categories (Years)		
≤30	1	20%
>30	4	80%
Age Mean (Years)	33.60 ± 3.0	
Parity		
Nullipara	2	40%
Primipara	3	60%
Multipara	0	38.9%
Referral Status		
Non-Referred	3	60%
Referred	2	40%
Gestational age at time of admission		
≤6 weeks	2	40%
6wks, 1day to 8 weeks	3	60%
Symptoms		
Amenorrhea	5	100%
Abdominal Pain	5	100%
Vaginal Bleeding/Spotting	3	60%
Fainting Attack	1	20%
UPT		
Positive	4	80%
Negative	1	
Culdo/Paracentesis		
Positive	5	100%
Negative	0	0

All women were married. 20% case were aged ≤ 30 years while 80% case were aged more than 30 years. The mean age was 33.60 ± 3.0 years. 40% (2 cases) were nullipara, 60% (3 cases) were primipara and none of cases were multipara. Our centre being tertiary centre, 40% (2 cases) were referred from other centres while 60% (3 cases) were diagnosed at our hospital. Majority of the patients 60% (3 cases)

presented at 6 to 8 weeks of gestation followed by 40% (2 cases) at less than 6weeks of gestation. Amenorrhea and pain abdomen was the most common complaint seen in 100% (5 cases) followed by Vaginal Bleeding/Spotting (60%) and Fainting Attack (20%). 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=5)	Percentage (%)
<1500	3	60%
1500-3000	0	0
3000-5000	1	20%
>5000	1	20%
Hemoglobin levels (gm/dl)		
<5	0	0
5-7	0	0
7-10	5	100%
>10	0	0

The beta-HCG levels of more than 5000mIU/ml was observed in 20% (1 cases), beta-HCG of less than 1500mIU/ml in 60% (3 cases, and beta-HCG in the range of 3000-5000 mIU/ml in 20% (1 cases). All of the patients had haemoglobin range of 7-10 gm/dl.

Table 3: Site of Ectopic

Site of Ectopic	Frequency (N=5)	Percentage (%)
Ampulla	4	80%
Fimbria	1	20%

Most common site of ectopic pregnancy was ampulla region (80%), followed fimbria end of the tube 20 (7 cases), (Table 3).

Table 4: Management

Management	Frequency (N=5)	Percentage (%)
Surgical Salpingectomy	4	80%
Surgical Salpingo-oophorectomy	1	20%

The surgical salpingectomy was the most common procedure done for chronic ectopic pregnancy in 80% (4 cases) while 20% cases were Surgical Salpingo-oophorectomy.

Table 5: Blood transfusion

Blood Transfusion	Frequency (N=5)	Percentage (%)
1 Unit	3	60%
2 Unit	1	20%
3 Unit	1	20%

Out of 5 patients of chronic ectopic pregnancy 100% (5 cases) required blood transfusion. It was further observed 60% (3 cases) were transfused with one units of blood, 20% (1 cases) each were transfused with two and three units of blood.

Discussion

CEP is a form of EP characterized by low or absent serum hCG levels and an adnexal mass with degenerated or avital chorionic villi, fibrosis, necrosis, and blood clots. In a case report and systematic review of the literature, we analyzed the clinical presentations, management, and outcomes of 399 cases of CEP. We found that the most common presenting symptoms were abdominal pain and irregular vaginal bleeding, whereas an asymptomatic presentation was only seen in 18% of

cases. Of note, serum hCG was negative in a high proportion of CEP cases, namely in 32%. This is consistent with an inactive or avital trophoblast in women with CEP. At presentation, an adnexal mass was visible by ultrasonography in around half of all the cases, but no distinct morphological pattern of the CEP adnexal masses could be identified. Most authors described the ultrasonographic images of the adnexal masses as inhomogeneous or complex [10].

In our study, all women married. 20% were under 30 and 80% were over 30. The mean age was 33.60 ± 3.0 years. 40% (2 cases) were nullipara, 60% (3 cases) primipara, and no multipara. Our tertiary center diagnosed 60% (3 cases) and referred 40% (2 cases). 60% (3 instances) manifested at 6–8 weeks, followed by 40% (2 cases) at less than 6 weeks. Amenorrhea and abdominal pain were the most

common complaints (100%) followed by vaginal bleeding/spotting (60%) and fainting attacks (30%). (20 percent). 80% were UTP positive. All patients had positive Culdo/Paracentesis. In a study by Singh, *et al.* [11] the mean age group of study population was 28.28±4.19 (1SD) yrs with 26.78 to 29.78 yrs and range of patient's age were 20 to 38 years (Median age 28 yrs). In a study by Ugur, *et al.*, [12] the most common complaints was pelvic pain and vaginal bleeding and a history of amenorrhea present in the majority of cases.

The beta-HCG levels of more than 5000 mIU/ml was observed in 20% (1 cases), beta-HCG of less than 1500mIU/ml in 60% (3 cases, and beta-HCG in the range of 3000-5000mIU/ml in 20% (1 cases). All the patients had haemoglobin range of 7-10 gm/dl. In a study by Ugur, *et al.* [12] a haemoglobin value less than 10 gm/dl was noted in 11 (11.7%) cases. Beta-HCG reveal positive results in 57 (91.9%) patients and was negative 5 (8.1%) patients.

Surgical salpingectomy was the most common procedure done for chronic ectopic pregnancy in 80% (4 cases) while 20% cases were Surgical Salpingo -oophorectomy. In a study by Behera, *et al.* [13] right side tubal pregnancy is more common than left side. Most common site of ectopic pregnancy was in ampulla of fallopian tube 51.6%. Isthmic tubal pregnancy was seen in 16.1% and 6.5% cases had cornual pregnancy. Only 3.2 % had ovarian pregnancy.

Out of 5 patients of chronic ectopic pregnancy 100% (5 cases) required blood transfusion. It was further observed 60% (3 cases) were transfused with one units of blood, 20% (1 cases) each were transfused with two and three units of blood. In a study by Gyamtsho [14], 51.92% of chronic ectopic patients was blood transfusion.

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.

References:

1. Tahmina S, Daniel M, Solomon P: Clinical analysis of ectopic pregnancies in a tertiary care centre in southern India: a six-year retrospective study. *J Clin Diagn Res.* 2016, 10:QC13-QC16.
2. Verma ML, Singh U, Solanki V, Sachan R, Sankhwar PL: Spectrum of ectopic pregnancies at a tertiary care center of northern India: a retrospective cross-sectional study. *Gynecol Minim Invasive Ther.* 2022, 11:36-40.
3. Ranji GG, Usha Rani G, Varshini S: Ectopic pregnancy: risk factors, clinical presentation and management . *J Obstet Gynaecol India.* 20 18, 68:487-492.
4. Gharoro EP, Igbafe AA: Ectopic pregnancy revisited in Benin City, Nigeria: analysis of 152 cases . *Acta Obstet Gynecol Scand.* 2002, 81:1139-1143.
5. Kalyankar V, Kalyankar B, Gadappa S, Ahire Y: Clinical study of ectopic pregnancy. *New Indian J OBGYN.* 2022, 9:148-154.
6. Nethra HS, Praneetha K, Sreelatha S, Bhairi SS: A study on risk factors and clinical presentation of ectopic pregnancy. *New Indian J OBGYN.* 2018, 4:146-149.
7. Prasanna B, Jhansi CB, Swathi K, Shaik MV: A study on risk factors and clinical presentation of ectopic pregnancy in women attending a tertiary care centre. *IAIM.* 2016, 3: 90-96.
8. Kouam L, Kamdom-Moyo J, Essame JL. [Fertility after chronic, undiagnosed, ectopic pregnancy. A case observed during a myomectomy]. *Contracept Fertil Sex.* 1995; 23 (6):407-410.
9. Abramov Y, Nadjari M, Shushan A, Prus D, Anteby SO. Doppler findings in chronic ectopic pregnancy: case report. *Ultrasound Obstet Gynecol.* 1997;9(5):344-346.
10. Brennan DF, Kwatra S, Kelly M, Dunn M. Chronic ectopic pregnancy: Two cases of acute rupture despite negative beta hCG. *J Emerg Med.* 2000;19(3):249-254.
11. Singh T, Mohan S, Aggarwal S, Maji D. A study on presentation and management of ectopic pregnancy at tertiary care hospital. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology.* 20 21;10(5):1997-2000.
12. Uğur M, Turan C, Vicdan K, Ekici E, Oğuz O, Gökmen O. Chronic ectopic pregnancy: A clinical analysis of 62 cases. *Aust N Z J Obstet Gynaecol.* 1996;36(2):186-189.
13. Behera A, Ghadei R, Bal RN. A clinical study of ectopic pregnancy in a tertiary care hospital. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology.* 20 18;7(11):4461-4464.
14. Gyamtsho S, Tenzin K, Choeda T, Lhaden K, Om T. Incidence and clinical profile of ectopic pregnancies in a tertiary hospital; A two-year Retrospective study. *Bhutan Health Journal.* 20 20;6(2):6-11.