

# A 5-year Study on Ectopic Pregnancy in North India

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## Abstract

Ectopic Pregnancy, a life jeopardizing emergency, can land in disaster, if the diagnosis is missed. Any woman in the reproductive age group presenting with vaginal bleeding and abdominal pain- the first suspicion should be ectopic. This was a hospital based retrospective cohort study of 5 years in Haryana, North India (3 Tertiary Care Centres)- to evaluate the incidence, patient profile, high risk factors, clinical presentation, diagnostic methods, treatment, outcome and complications of the same. Statistical analysis was done by MS Excel spread sheet using SPSS software 19.0 version. A total of 175 cases of ectopic pregnancy were diagnosed during the study period (Incidence of 1.521%). Majority of the patients were in age group 21 to 30 years 101/175(57.71%) with nulliparous being 60/175(34.28%). Most important risk factors found were past history of miscarriage, pelvic surgery, tubal surgery and tubal ligation. 75 % patients presented with the classical triad of lower abdominal pain, amenorrhoea, and bleeding per vaginum. Clinical diagnosis was possible in 85.71% while 11.4% patients were ultrasonographically diagnosed. 96.7 % were tubal ectopic gestations. Conservative expectant management was done in 2 patients, medical methotrexate therapy was given in 26 out of which 6 required surgery for failed therapy & 84 % were surgically managed. 54 % required blood transfusion and there were no deaths. We conclude that identifying common risk factors and being ectopic minded will help clinicians in diagnosing and managing ectopic pregnancy at the earliest to reduce morbidity and mortality associated with the condition.

**Key words:** Amenorrhoea, Ectopic Pregnancy. Methotrexate, Miscarriage, Risk factors, Tubal pregnancy, Tubal surgery.

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## INTRODUCTION

Ectopic pregnancy is defined as the condition when the fertilized ovum gets implanted outside the uterine cavity. It is a recognized life-threatening emergency causing much maternal morbidity and if late diagnosed-mortality too. The overall incidence is approximately 1-3% in most hospital based studies- but the incidence is showing a sharp upward trend in recent years [1-7].

As the classical triad of amenorrhoea, lower abdominal pain and bleeding per vaginum may not be seen in most of the patients, the diagnosis of ectopic pregnancy in a patient, unaware of being pregnant, may present with non-specific vague complaints or even with haemodynamic shock.

In India, the reported maternal mortality rate from ectopic pregnancy is approximately 3.5-7.1 % of all maternal mortality rates (MMR) [1, 8, 9]. This study

was undertaken to evaluate all cases of ectopic pregnancy in last 5 years in 3 tertiary care centres of Haryana, North India to understand about the epidemiology, risk factors, clinical presentation, diagnosis, management and morbidities.

## MATERIALS AND METHODS

- Study type: Hospital based, retrospective, cohort study
- Study period: 2015-2020
- Study duration: 5 years

All the case records from the Medical Record Department of patients of ectopic pregnancy during the five year period (September 2015- September 2020) in 3 tertiary care centres in Ambala and Gurugram of Haryana, North India. All the patient profile characteristics eg. socio-demographic variables- age, parity, high risk factors, mode of diagnosis, clinical presentation, management, complications, blood products transfusion were recorded and statistically

analysed including the incidence, high risk factors, materials and methods.

## STATISTICAL ANALYSIS

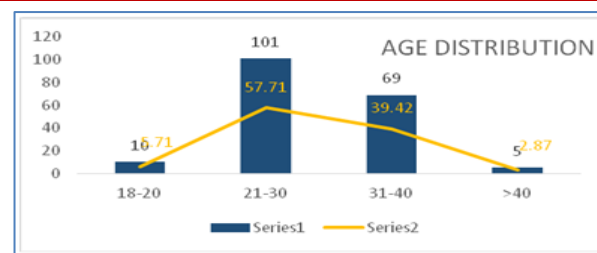
All the data thus collected were entered into MS Excel sheet using SSPS version 19.0 software. Results were expressed as frequency and percent and mean with standard deviation (SD)

## RESULTS AND OBSERVATIONS

Out of total 11500 pregnancies, 175 were ectopic pregnancy (1.521%) with majority of the patients being in 21-30 years of age group (57.71%)

**Table-1**

AGE DISTRIBUTION		
Age (Years)	Number	Percentage (%)
18-20	10	5.71
21-30	101	57.71
31-40	69	39.42
> 40	5	2.87
TOTAL	n=175	100



**Fig-1**

**Table-2**

PARITY WISE DISTRIBUTION		
Parity	Number	Percentage (%)
0	60	34.28
1	38	21.71
2	30	17.14
3	22	12.57
≥4	25	14.28

Most of the patients were nulliparous (34.28 %). There were presence of high risk factors in patients- most common being history of miscarriage, ectopic pregnancy in the past, pelvic and or abdominal surgery especially tubal surgery like tuboplasty and tubal ligation and caesarean section , history of pelvic inflammatory disease (PID) and history of intrauterine contraceptive device (IUCD). Many patients had more than one risk factors.

**Table-3**

HIGH RISK FACTORS PRESENT		
Variable	Number	Percentage (%)
H/O miscarriage (≥1)	75	40.0
Past history of ectopic pregnancy	52	29.71
Past pelvic-abdominal surgery	43	24.57
Caesarean section		
Tuboplasty		
Tubal ligation		
History of PID	38	21.71
History of IUCD use	30	17.14

Most of the patients were symptomatic – with 140 patients presenting with the classic triad of amenorrhea, abdominal pain and vaginal bleeding (80%). Urinary pregnancy test was positive in all patients. In our study, the mean period of gestation at the diagnosis of ectopic pregnancy was 7weeks 1 day.

Clinical diagnosis was made in 150 patients (85.71 %), while ultrasonographic diagnosis was made in 20 cases (11.4%), 5 patients were diagnosed at laparoscopy (2.85 %) and 2 patients were absolutely asymptomatic as depicted in table 3 & 4.

**Table-4**

CLINICAL PRESENTATION		
Feature	Number	Percentage
Asymptomatic	2	1.14
Amenorrhoea	169	96.57
Abdominal pain	155	88.57
Vaginal bleeding	98	56.00

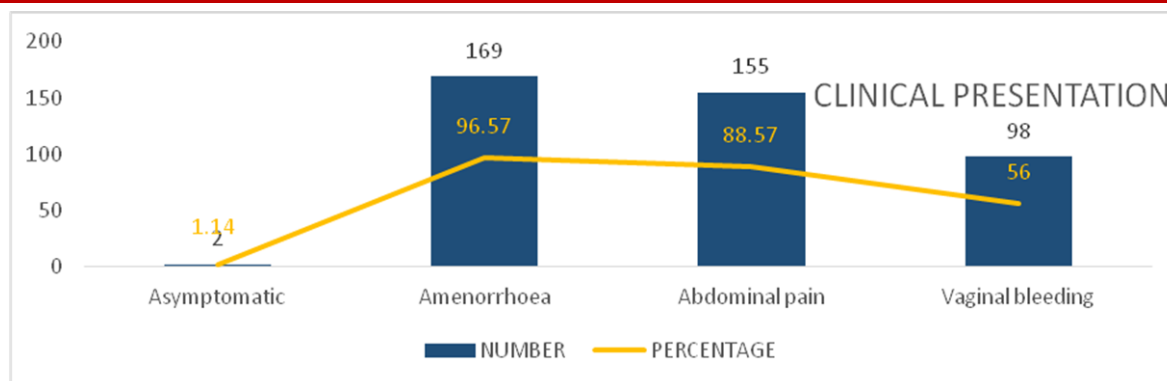


Fig-2

Table-5

Diagnostic Modality	DIAGNOSTIC MODALITY USED	
	Number	Percentage (%)
Clinical Examination	150	85.71
USG	20	11.40
Laparoscopy	5	2.85

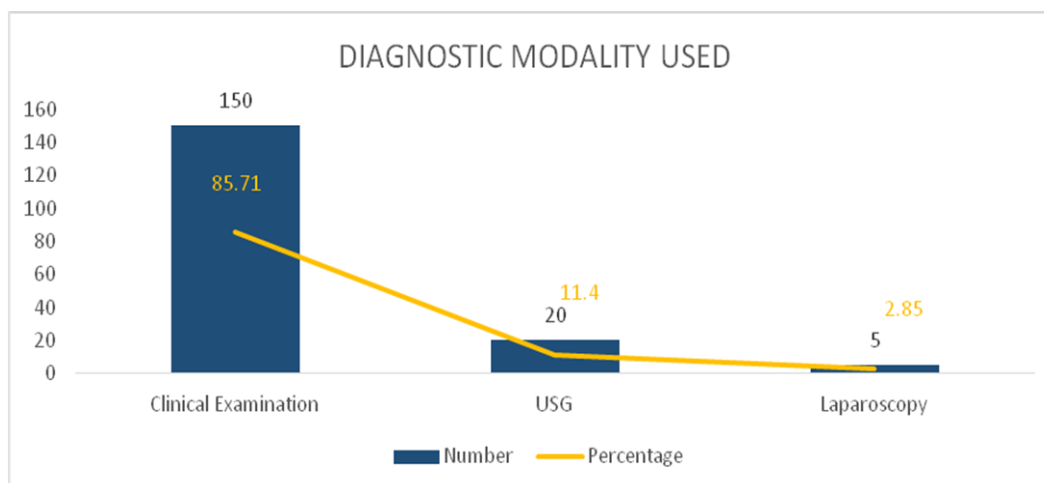


Fig-3

Table-6

Site	SITE OF ECTOPIC PREGNANCY	
	Number	Percentage (%)
Tubal	159	90.85
-Ampullary	118	67.42
-Isthmic	22	12.57
-Fimbrial	19	10.85
Cervical	2	1.14
Angular	2	1.14
Unknown (PUO)	12	6.85
Heterotopic	2	1.14

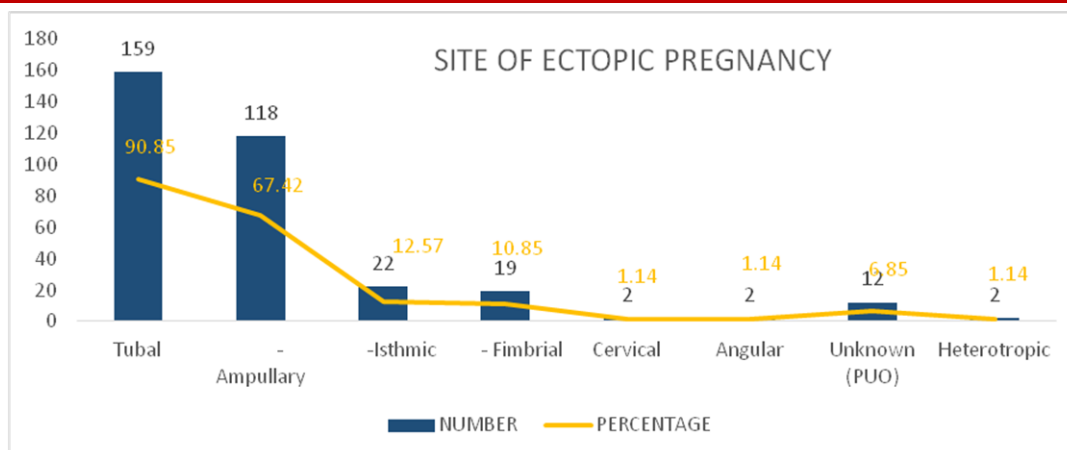


Fig-4

Fallopian tubes were the most common site of ectopic pregnancy 139/175 with ampullary 118, isthmic

22, fimbrial 19. Heterotopic pregnancy 2/175 and pregnancy of unknown origin 12/175

Table-7

Signs	Clinical Signs	
	Number	Percentage (%)
Abdominal tenderness	99	56.57
Cervical motion tenderness	88	50.28
Fullness in adnexa/ POD	56	32.00
Haemodynamic shock	39	22.28

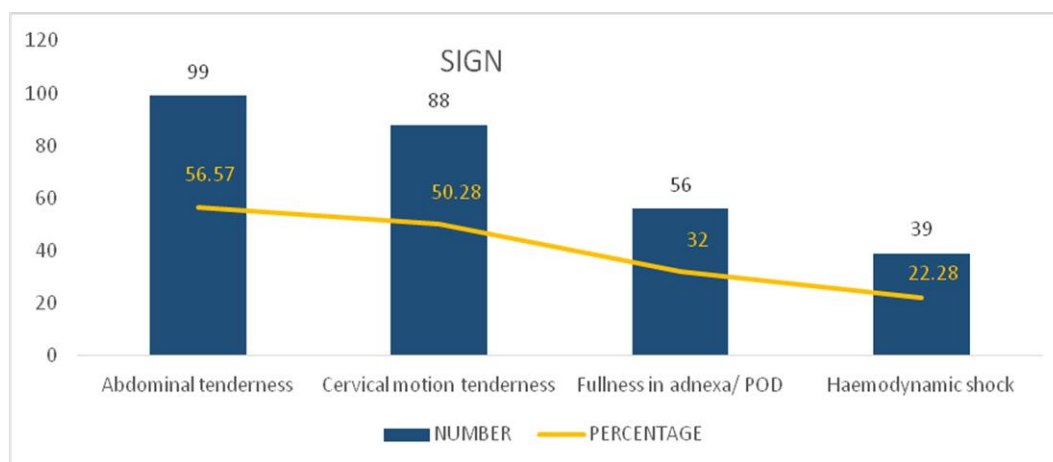


Fig-5

Table-8

Morbidity variable	MORBIDITY DISTRIBUTION	
	Number	Percentage (%)
ICU admission	33	18.85
Surgical Site Infection	11	6.28
Atelectasis	2	1.14
Transfusion Related Acute Lung Injury (TRALI)	4	2.28
Bowel Injury	2	1.14

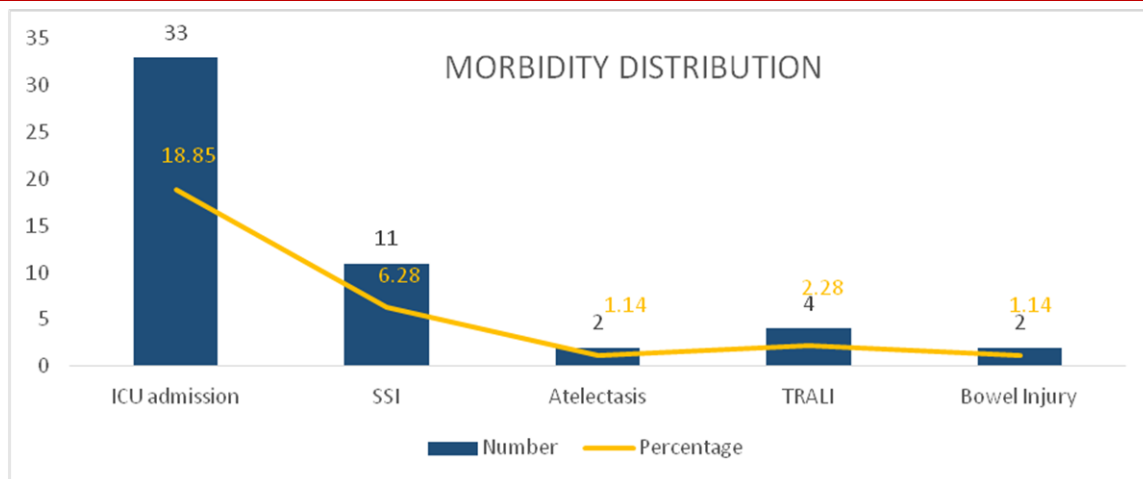


Fig-6

Mean hospital stay duration was  $7 \pm 1.9$  days.

## DISCUSSION

Ectopic pregnancy, an acute emergency, accounts for approximately 3.5-7.5% of Maternal Mortality Rate (MMR) in India [1, 8, 9]. In our study, the incidence of ectopic pregnancy was 2.9/1000 deliveries. Other studies reported 0.56-1.95% incidence in developing countries and 2.5 to 4.9 % in developed world [1-9, 10]. Among our patients, 85 (48.57%) presented with classic triad of symptoms- amenorrhoea, pain in lower abdomen and bleeding per vaginum, whereas other studies reported as 28-95% of the same [1, 2, 12, 13]. Amenorrhoea was present in 169/175 cases (96.57%). Urinary pregnancy test was positive in all patients. Singh et al. [2]- reported that 52% had no preceding amenorrhoea while Khaleeqe et al. reported the mean gestational age at diagnosis to be 6weeks 1 day [3]. In our study, detailed history revealed at least one high risk factor in 80% patients (similar to those reported by other researchers [1-3, 14]. Previous pelvic surgery was the most common risk factor in 41 % of our patients, followed by past history of miscarriages (40 %), previous ectopic pregnancy (29 %), PID (38 %) and use of IUCD (30 %). Pid was cited as the most common risk factor in a study by Singh et al. (17.9%) and previous tubal surgery by Mukti et al. (19.9%) in their studies [1, 2, 16, 17]. Studies from Nigeria found PID in 27-36.6% of their ectopic pregnancy patients [4, 6, 7]. Although clinical diagnosis of ectopic pregnancy was possible in 150/175 cases (85.71 %), but relying only on clinical examination would have led to missed diagnosis in approximately 25 cases (14.28 %).

USG diagnosis was made in 11.4 % cases while 5 patients were diagnosed at laparoscopy (2.85 %). Our results were comparable with those found in many other studies done in the Indian subcontinent.

## CONCLUSION

Ectopic pregnancy, an acute emergency, can result in considerable morbidity and mortality if

diagnosis and management are delayed. We conclude that identifying common high risk factors and being ectopic minded, detailed history and thorough clinical examination with beta HCG test and USG pelvis will help clinicians in diagnosing and timely managing ectopic pregnancy at the earliest to reduce morbidity and mortality associated with the condition.

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