A RETROSPECTIVE STUDY ON ECTOPIC PREGNANCY: INCIDENCE, CLINICAL PRESENTATION, RISK FACTORS, TREATMENT, MORBIDITY AND MORTALITY ASSOCIATED WITH ECTOPIC PREGNANCY- ONE YEAR STUDY

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ABSTRACT
Background: Ectopic pregnancy is a life threatening emergency in obstetrics. It remains as an important contributor to maternal morbidity and mortality, and is one of the commonest causes of 1st trimester maternal deaths
Aim: Present study determine the incidence, clinical presentation, risk factors, treatment pattern and outcomes associated with ectopic pregnancy in a tertiary care hospital.
Methods: Retrospective analysis of ectopic pregnancy was done in department of obstetrics and gynecology in a tertiary care hospital, India. A total of 60 patients diagnosed as ectopic pregnancy were enrolled. The following parameters: age, parity, gestational age, risk factors, clinical presentation, diagnostic methods, mode of treatment and morbidity were noted.
Results: Women with age 26-30 years had highest incidence (56.7%), ectopic pregnancies were common in primiparous women (48.3%). Right sided ectopic was more common, mainly located at ampulla (68.4%). Common clinical presentation were: amenorrhea (79%), abdominal pain (71%), bleeding per vaginum (50%) and adnexal tenderness (44%). Common etiology was Pelvic inflammatory disease (20%), History of previous c-section (13.3%), History of infertility (10%), History of abortions (>1) (6.7%) About 67.5% of ectopic was ruptured. The common complications and outcomes of ectopic pregnancy included anemia (61.6%), Blood transfusion requirement (55%), ventilatory or ionotropic support (40%), hemorrhagic shock (20%) and maternal mortality was reported in 3.3% cases
Conclusions: Early diagnosis, identifying of underlying risk factors and timely intervention in the form of conservative or surgical treatment will help in reducing the morbidity and mortality associated with ectopic pregnancy**.**
Keywords: Amenorrhea, Ectopic pregnancy, Risk factors, Transvaginal ultrasonography

INTRODUCTION
When the fertilized ovum implants and develops outside of the typical uterine cavity, it is known as an ectopic pregnancy [1]. It is one of the frequent acute abdominal emergencies that might be fatal. By causing the mutilation of one or more of the vital reproductive organs—the fallopian tubes, ovaries, and even the uterus—it negatively impacts a woman's capacity to procreate [2, 3] The fallopian tube is the predominant site in more than 98% of ectopic pregnancies, with the remaining portion occurring in the cervix, ovary, or abdominal cavity. Approximately 80% of pregnancies in the fallopian tube will take place in the ampullary region [4]. Ruptured ectopic pregnancy remains a major cause of pregnancy-related mortality and morbidity, even with recent improvements in diagnosis and treatment [5, 6]. Abortion history and pelvic inflammatory disease (PID) are the most prevalent risk factors [7]. Women may present with non-specific symptoms, unaware of an ongoing pregnancy or may even present with hemodynamic shock. The early diagnosis of this condition over the past two decades has allowed a definitive medical management of unruptured ectopic pregnancy with successful outcomes [8]. Since the trio of amenorrhea, abdominal pain, and vaginal bleeding only occurs in 30% to 40% of cases of ectopic pregnancies, diagnosing EP requires a high index of clinical suspicion. EP may result in significant morbidity and mortality if it is not identified and treated in a timely manner [9]. Although women with ectopic pregnancy frequently have no identifiable risk

factors, a prospective and case controlled study has shown that increase awareness of ectopic pregnancy and knowledge of the associated risk factors like pelvic inflammatory disease, history of previous ectopic pregnancy, tubal sterilization and any previous pelvic or abdominal surgery help in identifying women at higher risk in order to facilitate early and more accurate diagnosis [10].

AIMS & OBJECTIVES: The objectives of this study was to determined the incidence, risk factors, clinical presentation, treatment modality and outcomes associated with ectopic pregnancy in a tertiary care hospital, Rajasthan, India.

MATERIAL AND METHODS

This was a retrospective study conducted in the department of Obstetrics and Gynecology in a tertiary care hospital, Rajasthan, India, over a period of one year. A total of 60 cases reported during this frame with ectopic pregnancy and were admitted at our hospital through emergency or outpatient department.

Inclusion criteria:

- Women age ≥18 years
- All women with clinical features of ectopic pregnancy or diagnosis was confirmed as ectopic pregnancies attending our hospital during study period

Exclusion criteria:

- Women <18 or >40 years of age
- Women who had intrauterine pregnancy

The diagnosis of ectopic pregnancy was made mainly by history-taking, clinical physical examination, laboratory (urine pregnancy test/serum beta HCG), and radiological (ultrasound) investigations. These cases were traced through the registers kept in casualty, gynecology wards and OT records. The labour room registers were used to determine the total number of deliveries during this period.

The information of each patient was obtained from their case record files, kept in the medical records department. All the relevant demographic data was analyzed. Records were studied for a period of amenorrhea at the time of diagnosis, presenting complaints like pain abdomen, bleeding per vagina or acute abdomen. Predisposing high risk factors were also analyzed. A documentation of urine pregnancy test done, relevant ultrasound findings were also noted down. Treatment options offered, important intra operative findings and ultimate outcome of the patients were studied.

Statistical analysis: Data were entered in MS Excel and analyzed by SPSS 22.0. For categorical variables, data was compiled as frequency and percent. For continuous variables, data was calculated as Mean ± SD. A p value of <0.05 considered as statistically significant.

RESULT

A total of sixty patients diagnosed as ectopic pregnancy during the study period were analysed. Majority of the patients (56.7%) belonged to the age group of 26-30 years. Most of them (65%) were residing at rural area and 46.7% belong to lower socio-economic status. In the present study, 83.3% were multigravida and half of ectopic pregnancy present right side.

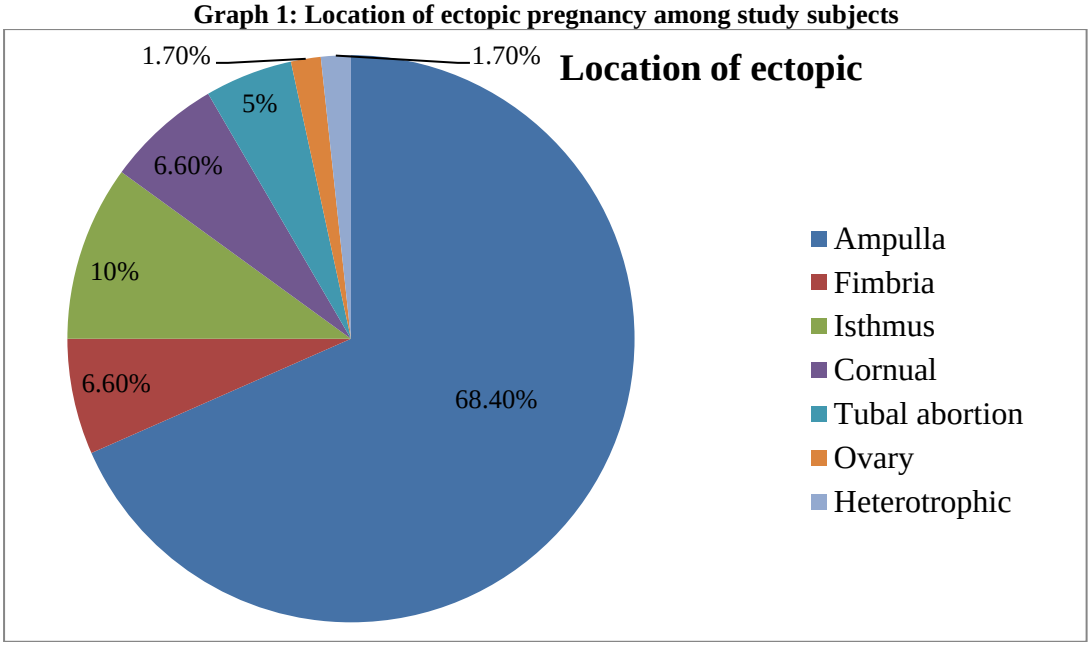
Table: 1 Socio-demographic characteristics of study women

Socio-demographic variables		Number (n=60)	Percentage
Age (In Years)	≤ 20	2	3.3%
	21-25	17	28.3%
	26-30	34	56.7%
	>30	7	11.7%
Residential Area	Rural	39	65%
	Urban	21	35%
Socio-economic status	Lower	28	46.7%
	Middle	19	31.6%

	Upper	13	21.7%
Parity	0	10	16.7%
	1	29	48.3%
	2	13	21.7%
	3 or more	8	13.3%
Side of ectopic pregnancy	Right side	27	45%
	Left side	30	50%
	Unknown	3	5%

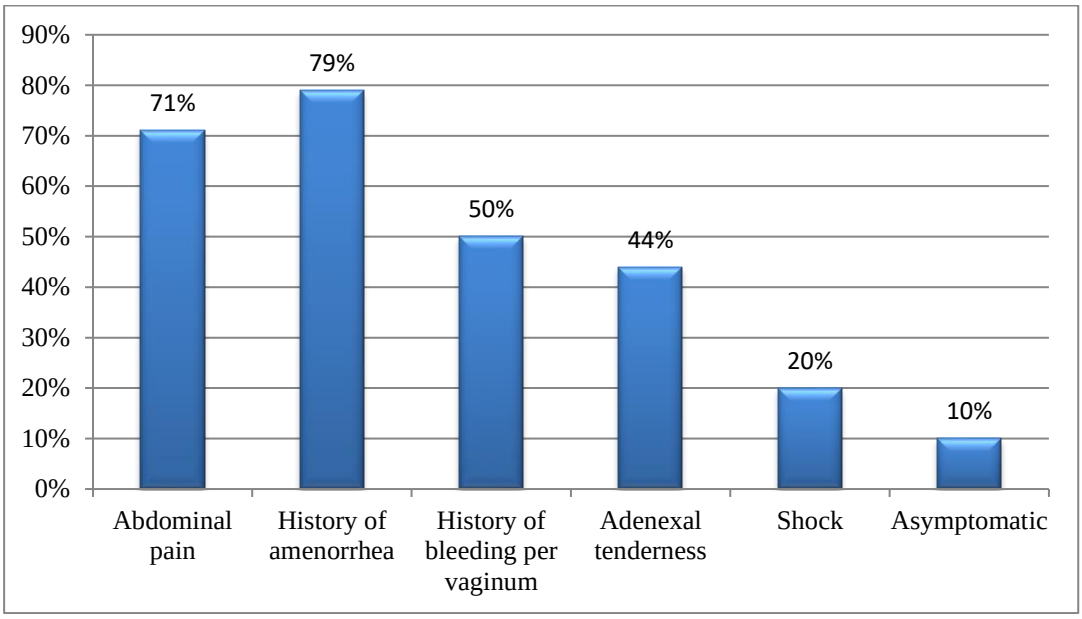
Majority of the ectopic located at ampulla (68.4%) followed by isthmus (10%), fimbria (6.6%) and 6.6% had corneal. Ectopic location details shown in graph.1

Graph 1: Location of ectopic pregnancy among study subjects



The common clinical presentation are amenorrhea (79%) followed by abdominal pain (71%), history of bleeding per vaginum (50%), signs of adnexal tenderness (44%), shock (20%) and asymptomatic in 10%.

Graph: 2 Clinical presentations in study population



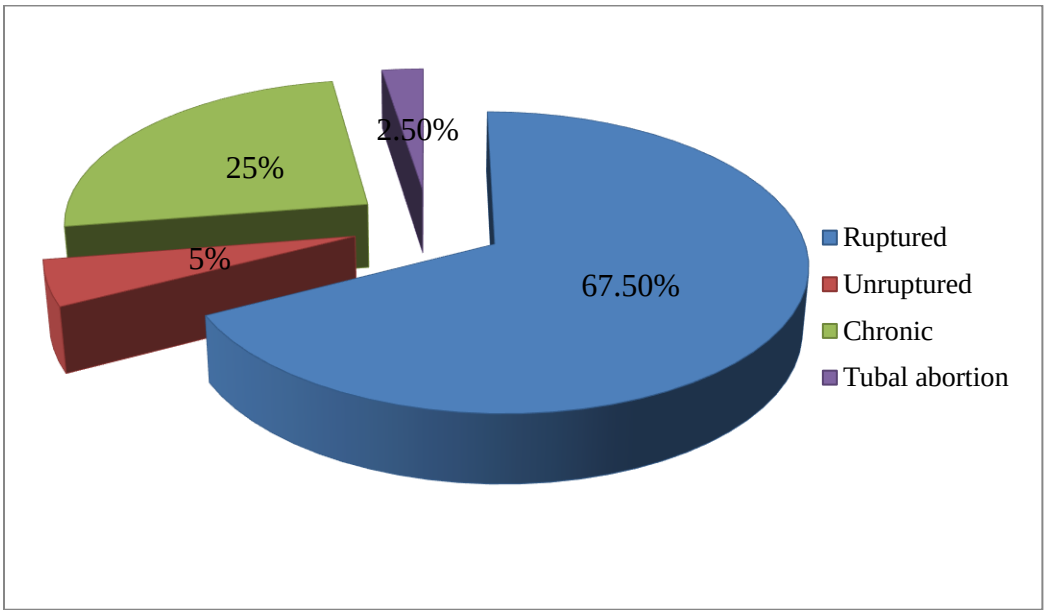
The common risk factors associated with the ectopic pregnancy were Pelvic inflammatory disease (20%), History of previous c-section (13.3%), History of infertility (10%), History of abortions (>1) (6.7%), History of Tubectomy failure (6.7%), History of induced abortion (5%), History of previous ectopic pregnancy (5%), and History of IUCD failure (3.3%), whereas 30% patients had no risk factors [Table:3].

Table: 3 Risk factors in study population

Risk factors	Percentage
Pelvic inflammatory disease	12 (20%)
History of abortions (>1)	4 (6.7%)
History of infertility	6 (10%)
History of previous ectopic pregnancy	3 (5%)
History of IUCD failure	2 (3.3%)
History of Tubectomy failure	4 (6.7%)
History of previous c-section	8 (13.3%)
History of induced abortion	3 (5%)
No identifiable risk factor	18 (30%)

On USG findings revealed that ruptured ectopic pregnancy in 67.5% of cases, chronic ectopic (25%), unruptured (5%) and tubal abortion in 2.5% cases

Graph 3: Ultrasonographic findings of ectopic pregnancy subjects



The common complications and outcomes of ectopic pregnancy included anemia (61.6%), Blood transfusion requirement (55%), ventilatory or ionotropic support (40%), hemorrhagic shock (20%), ICU admission (18.3%), Wound infection (5%), Transfusion related acute lung injury (1.6%) and maternal mortality was reported in 3.3% cases.

Table 4: Complications and outcomes of ectopic pregnancy among study patients

Complications and outcomes	Percentage
ICU admission	11 (18.3%)
Blood transfusion requirement	33 (55%)
Severe anemia	37 (61.6%)
hemorrhagic shock	12 (20%)
Ventilatory support	24 (40%)
Bowel injury	1 (1.6%)
Wound infection	3 (5%)
Transfusion related acute lung injury	1 (1.6%)
Death	2 (3.3%)

DISCUSSION

Recent increase in artificial reproductive techniques and the tubal block restoration surgeries have substantially contributed to the increase of ectopic cases in the background of having other high risk factors like chronic pelvic inflammatory disease.

In our study, majority of ectopic cases was seen in women of age group 26-30 years which is close to the studies done by Samiya et al [11]. The highest number of ectopic gestation in this age group can be attributed to the tendency of early marriage in Indian culture and early completion of reproductive activity. Another possible reason

for this finding is that in recent years, the age at first conception has increased, which ultimately contributes to the increased incidence.

In the present study, maximum occurrence of ectopic gestation was seen either nulliparous or Primi parous women, similar to our results most of the studies showed that most of the ectopic found in nulliparous women [12-13], reported that there is a decrease in the incidence of ectopic pregnancy with rising parity. In the ICMR multi-centric case control study of ectopic pregnancy, majority of women were young and had low parity [14].

The commonest complaints at the time of presentation of ectopic were classical triad of abdominal pain, amenorrhea and vaginal bleeding found in this study, in agreement with the Wakankar R, et al [15] and Mehta A et al [16]. This suggests that this classical triad is reliable most of the time for raising a suspicion of ectopic gestation.

In most of the cases ultrasound findings corroborated with the intra-operative findings. The Ampulla of the fallopian tube was the commonest site of ectopic pregnancy in current study, similar to the observation of P. Sujata et al [17]. In the present study the commonest risk factor of ectopic pregnancy was PID, accordance with the Igwegbe A, et al [18], whereas a study done by S Tahmina et al [19], reported that previous pelvic surgery was the most common, followed by previous abortions.

Ruptured ectopic pregnancy was present in most of the cases followed by chronic, unruptured and tubal abortion in this study, our results correlates with the Banu AS, et al [20] and Ranji et al [21]. Ultrasound was found to be highly sensitive and specific as an imaging technique aiding the diagnosis.

The common complications and outcomes of ectopic pregnancy included anemia, Blood transfusion, ventilatory or ionotropic support, hemorrhagic shock, and ICU admission in the present research, our findings comparable with the Godria PP, et al [22] and Verma, et al [23].

It was managed surgically by excision after failure of medical line of management. Majority of our cases were managed by laparotomy followed by partial salpingectomy.

CONCLUSION

Ectopic gestation can become an obstetrical emergency and reproductive capacity hampering morbidity if not diagnosed and treated on time. However having a high vigilance and evaluating every woman in the reproductive age group who presents with the classical clinical triad of amenorrhea, pain abdomen and bleeding per vagina can help in curbing the incidence in future. Hence, identifying underlying risk factors, etiology, and availability of point of care ultrasound, complications, outcomes assessment and timely intervention will help reduce the morbidity and mortality due to ectopic pregnancy.

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