

Article

Clinical study of ectopic pregnancy in tertiary care centre

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Abstract: Background: Ectopic pregnancy (EP) is a condition presenting as a major health problem for women of childbearing age. This study aimed to identify potential risk factors for EP and to evaluate the contribution of the risk factors associated to EP.

Material and Methods: The present Prospective (Hospital based) Observational study was conducted in the Department of Obstetrics and Gynaecology, Gandhi Medical College, Bhopal. After approval from institutional ethical committee for a period of 18 months from January 2021 to June 2022. All diagnosed cases of ectopic pregnancy during 18 months of study period in GMC Bhopal. The diagnosis of ectopic pregnancy was made by detailed history, clinical examination, laboratory evidence (urine pregnancy test/serum beta HCG), and radiological investigations (ultrasound).

Results: In our study 65.0% of the patients were from the age group of 21-30 years, 63.6% of the patients were multigravida, 48.6% patients belonged to low socio-economic status, 55.7% were educated, 50% cases were less than 7 weeks of gestation, and 45.7% patients were between 8-14 weeks of gestation, 8.6% patients had undergone sterilization, while 2.1% were using IUCD, Majority of ectopic pregnancy occurred in fallopian tube i.e., 124 (88.57%) followed by Ovary in 10 (7.1%) patients. Rudimentary horn ectopic pregnancy was witnessed in 5 (3.6%) patients. In our study 111 (79.3%) patient presented with ruptured ectopic pregnancy to the department, while the rest 21.7% were unruptured. surgical intervention done in 133 individuals, accounting for 95.0% of the sample, whereas the remaining 7 participants (5.0%) received medical treatment.

Conclusion: Ectopic pregnancy can be life-threatening. Hormonal assays, transvaginal sonography, and laparoscopy are detecting ectopic pregnancies early, increasing their incidence. Reproductive organ mutilation can affect fertility. Tubal surgery, PID and abortions increase ectopic pregnancy risk. In patients without risk factors, early diagnosis is critical. Antenatal care facilities should have USG, particularly transvaginal sonography (TVS), and trained staff. Early detection of first-trimester complications like ectopic pregnancies reduces mortality. As the incidence of ectopic pregnancy has been on the rise, screening of high risk cases, early diagnosis and early intervention are required to enhance maternal survival and conservation of reproductive capacity.

Keywords: Ectopic pregnancy; intrauterine device; tubal damage.

1. Introduction

One of the advantages of science is its inherent veracity, which remains unaffected by personal beliefs or opinions. Neil deGrasse Tyson is an astrophysicist and science communicator. The first recorded identification of an ectopic pregnancy dates back to 1693, when Busiere observed the condition during an examination of the body of an executed prisoner in Paris. Gifford of England conducted a comprehensive analysis in 1731, wherein he characterized the phenomenon as an implanted fertilized ovum situated beyond the confines of the uterine cavity [1]. The term "Ectopic Pregnancy" (EP) pertains to the occurrence of fertilized ovum implantation outside the endometrial cavity. Maternal mortality and morbidity in developing nations continue to be significantly impacted by this issue [2]. Ectopic pregnancy occurs due to multiple factors that impede the successful migration of the fertilized ovum into the uterine cavity and delay the passage of the embryo through the tube. The prevalence of ectopic pregnancy is estimated to be approximately 2% among

all documented pregnancies [3]. The fallopian tube is the most frequent site for ectopic pregnancy, accounting for 95% of cases. The ampulla is the predominant location for occurrence within the Fallopian tube, with the isthmus, infundibulum, and interstitium following in descending order of frequency [4]. Abdomen, ovary, and cervix are among the less frequently encountered sites [5]. The occurrence of ectopic pregnancy represents a prevalent and critical medical emergency that poses a significant risk of maternal mortality. Several risk factors have been identified for ectopic pregnancy, including an elevated incidence of pelvic inflammatory disease, smoking among women of reproductive age, prior abdominal surgeries, and the utilization of assisted reproductive techniques [6,7].

Various risk factors have been associated with the occurrence of ectopic pregnancy, including but not limited to prior ectopic pregnancy, tubal corrective surgery, tubal sterilization, intrauterine devices, documented tubal pathology, infertility, assisted reproductive techniques, pelvic inflammatory disease, smoking, prior abortions, multiple sexual partners, and prior delivery. The clinical manifestations of ectopic pregnancy are subject to variation contingent upon the gestational age and the location of the pregnancy outside the uterus [8]. Many ectopic pregnancies follow a relatively chronic course, making clinical diagnosis difficult, and sudden collapse associated with tubal rupture is unusual (less than 10% of cases) (Stabile11, 1996). Ectopic pregnancy is a complex condition that can present with a wide range of clinical manifestations, ranging from mild vaginal spotting to severe shock with hemoperitoneum. The classic triad of delayed menses, irregular vaginal bleeding, and abdominal pain is not frequently observed, making the diagnosis of ectopic pregnancy a challenging task [9]. The clinical presentation of ectopic pregnancy poses a challenge for obstetricians. The presentation of amenorrhea, abdominal pain, and vaginal bleeding as a triad is not universally observed in all instances. Ectopic pregnancy diagnosis requires a high index of suspicion due to the possibility of women presenting with non-specific symptoms or hemodynamic shock, and may even be unaware of an ongoing pregnancy [10].

In recent decades, the incidence of ectopic pregnancy has increased, largely attributed to the utilization of quantitative HCG measurements and minimally invasive surgical techniques and transvaginal ultrasonography and the incidence of ectopic pregnancy rupture has declined [11]. There is a dearth of research on the clinical characteristics of patients with ectopic pregnancy in this region, in contrast to other global regions where such studies are abundant. Hence to alleviate this research gap, a prospective analysis was planned to determine the risk factors, clinical features, treatment and morbidity and mortality associated with ectopic pregnancy in a tertiary care hospital. Understanding the risk factors associated with ectopic pregnancy can aid in the identification of women who are at an increased risk of developing this condition. This knowledge can then be used to effectively manage ectopic pregnancy and prevent pregnancy-related morbidity and maternal mortality on a broader scale.

2. Material and Methods

The present Prospective (Hospital-based) Observational study was conducted in the Department of Obstetrics and Gynaecology, Gandhi Medical College, Bhopal. After approval from the institutional ethical committee for a period of 18 months from January 2021 to June 2022. All diagnosed cases of ectopic pregnancy during 18 months of study period in GMC Bhopal. The diagnosis of ectopic pregnancy was made by detailed history, clinical examination, laboratory evidence (urine pregnancy test/serum beta HCG), and radiological investigations (ultrasound). Detailed history including age, socioeconomic status, and history suggestive of risk factors for ectopic pregnancy, menstrual and obstetric history was taken by pre-structured proforma. General, systemic, abdominal and vaginal examination was done. Complains like history of amenorrhea, pain abdomen, vaginal bleeding (if present its duration and nature), any attacks of syncope or vomiting, urinary or rectal symptoms, fever or other symptoms like backache or shoulder pain; Detailed menstrual and obstetric history including history of infertility or previous ectopic pregnancy, if present; history of previous surgery - dilatation and curettage, tubal surgeries – tuboplasty, appendicectomy or any other abdominal surgery; history of pelvic inflammatory disease or tuberculosis and treatment received for it; family history of tuberculosis; method of contraception - IUCD, oral contraceptive pill or permanent method was noted. Clinical evaluation included general examination of patient for presence of anaemia, features of shock, (restlessness, cold and clammy extremities, pulse, respiration, blood pressure), cardiovascular and respiratory systems. Abdominal examination for presence of mass, signs of free fluid in peritoneal cavity, guarding, rigidity,

tenderness and presence of rare signs like Cullen's sign; Vaginal examination –for presence of bleeding, its nature, amount, position of the cervix, tenderness on movement of the cervix, size of the uterus, mobility and consistency, presence of mass and/or tenderness in any of the fornices was carried out. Culdocentesis was done. On admission after a detailed examination, a sample of blood was drawn for Blood grouping, Rh typing and cross-matching to arrange blood for transfusion (if required). Investigations like urine pregnancy test, Hb%, HCT, routine blood tests; TLC, DC, ESR; and ultrasonography was done. The outcome was coded appropriately and data was collected and recorded in preformed proforma and compiled using MS EXCEL and tabulated and presented in form of percentage and proportion.

3. Results

According to the Table 1, a significant proportion, specifically 65.0%, of the patients fell within the age range of 21-30 years. Additionally, a smaller percentage of patients, approximately 13.6%, were categorized as being under the age of 21 years. a majority of the patients involved in the study, specifically 89 individuals or 63.6%, were classified as multigravida. On the other hand, 39 patients or 27.9% were identified as primigravida. Among the participants of the study, 12 individuals (8.6%) were identified as grand multigravida females. majority of the patients, specifically 48.6%, were categorized as belonging to the low socio-economic class. On the other hand, 42.1% and 9.3% of the patients were identified as belonging to the lower middle and upper middle classes, respectively. The distribution of patients based on their educational status indicates that the majority, comprising 55.7%, had received education, while the remaining patients were classified as uneducated. A significant proportion of the sample, specifically 70 individuals (50%), had a gestational age of less than 7 weeks. Additionally, 64 patients (45.7%) fell within the gestational age range of 8-14 weeks. It is noteworthy that only a small proportion of females, namely 4.3%, had a gestational age exceeding 15 weeks. According to the study, a majority of the patients, specifically 88.6%, did not report any prior use of contraception. Out of the total number of patients, 12 individuals, accounting for 8.6% of the sample, had undergone sterilization. On the other hand, 2.1% of the patients were utilizing intrauterine contraceptive devices (IUCD). The study also revealed that the majority of patients did not have a history of abortion, whereas 12.9% reported having undergone one abortion and 1.4% reported having had more than three abortions, patients commonly reported amenorrhea and abdominal pain as their primary complaints. In 51.4% of the patients, there was evidence of bleeding from the per vagina, while 7 patients presented with shock. Majority of the patients, specifically 73.6%, did not provide any information regarding their past surgical history. However, a small percentage of patients, 7.9% and 7.1% respectively, reported a history of c-section and D&C. The historical records of tubal surgery were sourced from an additional 16.42% of patients. In the present study, the majority of cases (79.3%) presented with ruptured ectopic pregnancy to the department, whereas the remaining cases (21.7%) were unruptured. The findings of our study indicate that a majority of the patients, specifically 127 individuals (90.7%), presented with acute ectopic pregnancy, whereas the remaining 13 patients (9.3%) exhibited chronic ectopic pregnancy. 43.6% of the patients (n=61) exhibited hemoperitoneum exceeding 500 ml, whereas 39.3% of the patients (n=55) exhibited hemoperitoneum below this threshold. Surgical intervention was performed on a majority of the patient cohort, specifically 133 individuals, constituting 95.0% of the sample. The remaining 7 patients, comprising 5.0% of the group, received medical management. The study revealed that 46.5% of patients required admission to the ICU, while the remaining 53.6% were managed solely in indoor settings. The hospitalization duration of the patients was analyzed, and it was found that a significant proportion of the patients, specifically 91 (65.0%), had a length of stay ranging from 6 to 10 days. Additionally, 42 (30.0%) patients had a duration of hospitalization that was less than or equal to 5 days. The findings of our study indicate that a significant proportion of patients, specifically 93.6%, required blood transfusion. Additionally, 46.5% of patients were admitted to the intensive care unit. Notably, the incidence of maternal morbidity was low, with only 2 cases (1.4%) observed in our study. Maternal mortality was not observed in the study. All patients were discharged from the hospital following their recovery without any complications.

Table 1

Particular	Sub-particular	Frequency	Percentage%
Age group	<20	19	13.6
	21-30	91	65
	≥31	30	21.4
Gravida status	Primi	39	27.9
	Multi	89	63.6
	Grand Multi	12	8.6
Socio Economic Status	Low	68	48.6
	Lower Middle	59	42.1
	Upper Middle	13	9.3
Education	Educated	78	55.7
	Uneducated	62	44.3
Gestational age in weeks	≤7	70	50
	Aug-14	64	45.7
	≥15	27	4.3
Contraception Used	None	124	88.6
	IUCD	3	2.1
	OCP	1	0.7
	Sterilization	12	8.6
Number of Abortions	0	116	82.9
	1	18	12.9
	2	4	2.9
	≥3	2	1.4
Presenting Complaints	Amenorrhea	135	96.4
	Pain abdomen	125	89.3
	Bleeding P/V	72	51.4
	Fainting attacks	7	5
	Vomiting	14	10
	Others-Shock	7	5
Past Surgical History	History of C-Section	11	7.9
	History of D&C	10	7.1
	History Laparoscopy/Laparotomy	5	3.6
	History of Tubal Surgery	23	16.42
	No history of Surgery	103	73.6
Rupture	Unruptured	29	21.7
	Ruptured	111	79.3
EP type	Acute	127	90.7
	Chronic	13	9.3
Findings	Hemoperitoneum <500ml	55	39.3
	Hemoperitoneum >500ml	61	43.6
Type	Medical	7	5
	Surgical	133	95
ICU Admission	Yes	65	46.5
	No	75	53.6
Duration of stay	≤5	42	30
	06-Oct	91	65
	>11	7	5
Outcome	Blood Transfusion	131	93.6
	ICU Admission	65	46.5
	Morbidity	2	1.4
	Mortality	0	0

Table 2

	Particular	Sub-particular	Frequency	Percentage %
Risk Factor	Factors in obstetric history	Induced abortion	6	4.28
		Spontaneous abortion	9	6.42
		History of ectopic pregnancy	2	1.43
	History of	Tuberculosis	9	6.43
		Infertility	14	10
	History of contraception use	Sterilization	12	8.57
		IUCD	3	2.14
		Oral contraceptive pills	1	0.71
	History of previous surgery	D&C	10	7.14
		Caesarean section	11	7.85
		For previous ectopic pregnancy	2	1.42
		Laparotomy/laparoscopy	5	3.57
	Site	Tubal		124
Ampulla			105	74.7
Cornu			8	5.7
Isthmus			9	6.4
Fimbria			2	1.4
Ovary			10	7.1
Rudimentaryhorn			5	3.6
Cervix			2	1.4
Abdominal			2	1.4
Scar			3	2.1
Heterotopic			1	0.7

Table 2 indicates that a history of spontaneous abortion was evident in 9 patients, accounting for 6.4% of the total sample, while a history of induced abortion was present in 6 patients, accounting for 4.3% of the total sample. Additionally, 14 patients, representing 10.0% of the total sample, had a history of infertility, while 9 patients, accounting for 6.4% of the total sample, had a history of tuberculosis. Out of the total sample, 12 individuals (8.6%) reported a prior history of sterilization. The study revealed that a total of 11 (7.9%) patients had a medical history of both c-section and tubal surgery. The preponderance of ectopic pregnancy transpires within the fallopian tube, with a majority of 124 cases (88.57%), while the ovary accounts for 10 cases (7.1%) among patients. Five patients (3.6%) presented with rudimentary horn ectopic pregnancy.

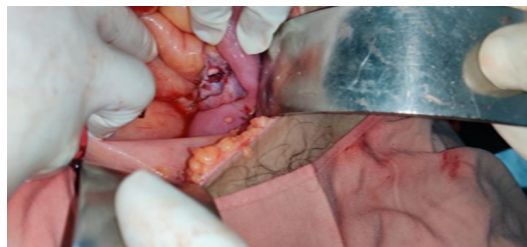


Figure 1. Left tubal ectopic pregnancy

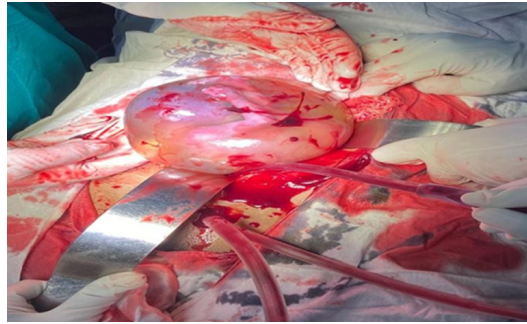


Figure 2. Secondary abdominal ectopic pregnancy

4. Discussion

In order to make genuine progress in science, it is necessary to exercise creative imagination and approach existing problems from novel perspectives, thereby generating fresh inquiries and potential solutions. The aforementioned quote is attributed to the renowned physicist and Nobel laureate, Albert Einstein. This prospective observational study was conducted within the obstetrics and gynaecology department at Gandhi Medical College Bhopal. The study aimed to identify the risk factors, clinical features, treatment, and maternal outcomes associated with ectopic pregnancy. All diagnosed cases of ectopic pregnancy were included in the study. The categorization of patients based on age was examined for distribution.

The findings of our study reveal that the age distribution of patients was as follows: the largest proportion, comprising 65.0% of the sample, fell within the age range of 21-30 years, while 13.6% of patients were categorized as being under the age of 21. A study with a similar approach was carried out by Najma Banu Shaikh and colleagues in 2014 [12]. According to Smita Singh Mahendra G et al. [13] (2014), the majority of women, specifically 43 individuals (72%), belonged to the age group of 20-30 years. Wakankaret al. [14] (2015) reported that the majority of individuals belonged to the age range of 20-30 years. The study reported the mean age of patients as 29.1 ± 5.42 years. As per the research conducted by Dr. S Venkata Ramana and colleagues in 2015 [15]. The age group with the highest incidence rate is between 25 and 29 years, with a mean age of 27 years. Dr. Girraj Prasad Swarnkar and colleagues [16] (2017) reported in their study that the age range of participants was between 17 and 36 years, with a mean age of 28.12 ± 4.10 years. Tak et al. [17] (2018) reported that the age group most commonly affected by the condition was between 20 and 30 years old.

Based on maternal status during pregnancy: The study revealed that a majority of the patients, specifically 89 individuals or 63.6% of the total sample, were multigravida. On the other hand, 39 patients or 27.9% of the sample were primigravida. Out of the participants in the study, 12 individuals (8.6%) who identified as female were classified as grand multigravida. As per the findings of Najma Bano Shaikh and colleagues [12] (2014). In their study, Smita Singh Mahendra G et al. [13] (2014) found that the majority of those affected were multigravida (52%). Additionally, they noted that multiparous women were particularly susceptible to the condition. The study conducted by M.B. Swami et al. [18], (2015) revealed that the majority of those affected were multigravida, accounting for 64.71% of the cases. Dr. Girraj Prasad Swarnkar et al. [16], (2017) conducted a study which reported that the highest percentage of maximum parity was observed in nulliparous women (53.4%), followed by women with one parity (25.9%), two parity (19%), and three parity (17.2%). According to a study conducted by Prem Singh Tak et al. [17] in 2018, the majority of participants, specifically 71.8%, were multigravida while 28.2% were primi gravidas. The research conducted by Dr. Mahassin Qassim Qaddoriet al. [19], (2020) found that the group most impacted were multigravidas. According to a study conducted by Vamsi Mudadla et al. [20] in 2021, the proportion of multigravida cases was 49.20% out of a total of 63 cases. As per the classification based on socio-economic status. The study revealed that a significant proportion of patients, specifically 48.6%, were categorized as belonging to the low socio-economic status group. Additionally, 42.1% and 9.3% of patients were classified as belonging to the lower middle and upper middle classes, respectively. In the study conducted, 55.7% of the participants were found to have received education, while the remaining participants were categorized as uneducated. Based on the gestational age. Majority Among the cohort, 64 individuals (45.7%) exhibited a gestational age falling within the 8-14 week range, whereas a mere 4.3% of female participants displayed a gestational age exceeding 15 weeks. As per the method of contraception. The study revealed that a significant majority of the patients, specifically 88.6%, did not have any prior usage of

contraceptive methods. Out of the total number of patients, 12 individuals (8.6%) had undergone sterilization, whereas 2.1% of the patients were utilizing intrauterine contraceptive devices (IUCD). In the study conducted by Dr. S. Venkata Ramana and colleagues in [15], 2015, it was found that six patients had a prior history of sterilization. According to a study conducted by Dr. Girraj Prasad Swarnkar et al. [16] in 2017, 1.7% of cases exhibited intrauterine contraceptive device (IUCD) in situ, while 5.2% of cases had a history of previous IUCD insertion. Roopa Malik and colleagues [21], (2017) reported that a history of tubal surgery was present in 26.47% of the 102 patients studied. According to the research conducted by B. Sreelatha et al. [22], (2020), the utilization of OCP has a contribution of 5.9%. As per the historical account of abortion the majority of patients did not have a history of abortion, whereas 12.9% reported having one abortion and 1.4% reported having more than three abortions.

A study conducted by Most. Sabina Yeasmin et al. [23] (2014) found that abortion occurred in 10.6% of cases, whereas Najma Bano Shaikh et al. [12], (2014) reported a higher incidence of abortion at 33.0% among patients. The study conducted by Rajendra Wakankar et al. [14], (2015) reported a prevalence of 32.69% for prior abortion or medical termination of pregnancy. In a study conducted by Dr. S Venkata Ramana and colleagues [15], (2015), it was reported that four patients experienced abortions. The study conducted by Dr. Girraj Prasad Swarnkar and colleagues in [16] in 2017 found that 44% of cases examined had a history of abortion. As per the presenting complaints, it can be inferred that. The prevailing investigation revealed that the patients' most frequent complaint was amenorrhea accompanied by abdominal pain, with 7 patients presenting in a state of shock. Abdominal pain, absence of menstruation, and vaginal bleeding were observed in a minimum of 50% of the cases. As per the research conducted by Rashmi A Gaddagi et al. [24], (2012), nearly 40% of the participants exhibited symptoms of shock upon admission. According to a study conducted by Most. Sabina Yeasmin et al. [23] in 2014, the most frequently reported symptoms were abdominal pain (89.3%), amenorrhea (78.7%), and abnormal vaginal bleeding (63.5%). According to a study conducted by Najma Bano Shaikh et al. [12], (2014), 46 (77%) women exhibited a common history of amenorrhea and abdominal pain, while 23 (38%) were observed to be in a state of shock. According to a study conducted by Smita Singh Mahendra G et al. [13] in 2014, the prevailing symptom observed was abdominal pain, followed by vaginal bleeding and a history of amenorrhea. Shock was observed in 32% of the patients. Abdominal pain was reported in all 34 cases, while amenorrhea was observed in 97.05% of cases. Vaginal bleeding was observed in 76.47% of cases. The study conducted by M.B. Swami et al. [18], (2015) revealed that syncopal attacks and vomiting were observed in 14.70% of cases. According to a study conducted by Rajendra Wakankar and colleagues [14] (2015), pain was found to be the most prevalent symptom in 86.53% of women. The classical triad of ectopic pregnancy, consisting of pain, amenorrhea, and bleeding per vaginum, has been observed in 53.84% of women. In a study conducted by Dr. S Venkata Ramana and colleagues [15], (2015), it was reported that 95% of the participants presented with abdominal pain, 80.95% experienced amenorrhea, and 50% reported vaginal bleeding. In 46% of cases, the triad of three symptoms consisting of amenorrhoea, pain in the abdomen, and bleeding per vaginum is observed. According to a study conducted by Dr. Girraj Prasad Swarnkar et al. [16], (2017), the majority of participants, specifically 75.8%, reported experiencing bleeding per vaginum, while 74.1% reported pain abdomen as their primary complaint. Malik et al. [21], (2017) reported that abdominal pain was the most frequently reported clinical complaint, with 97 out of 102 patients (95.09%) experiencing this symptom. According to the research conducted by Meenakshi Gothwal et al. [25], (2018), the predominant symptom reported was lower abdominal pain, which was present in all cases. Vaginal bleeding was observed in 75% of cases, while amenorrhea was reported in 80% of cases. Similarly, all 34 cases reported experiencing pain in the abdomen, with 97.05% of cases experiencing amenorrhea and 76.47% of cases experiencing bleeding per vagina. The study conducted by Dr. Mahassin Qassim Qaddori et al. [19], (2020) revealed that 14.70% of cases exhibited syncopal attacks and vomiting. As per the patient's past surgical history. In the current investigation, it was found that a majority of the patients (73.6%) did not provide any information regarding their previous surgical procedures. However, a small percentage (7.9%) reported a history of cesarean section, and a similar proportion reported a history of dilation and curettage (D&C).

1 percent of the patients. The historical record of tubal surgery was sourced from an additional 7.9% of patients. Most provided an account of the history of tubal surgery, as reported by Sabina Yeasmin et al. [23] in 2014. The study conducted by Najma Bano Shaikh et al. [12], (2014) reported that 20% of the patients had a history of prior surgery. According to Rajendra Wakankar and colleagues [14] (2015), a history of prior

abdominal or pelvic surgery, including lower segment Caesarean section, was observed in 32.69% of patients. Additionally, 32.69% of patients had a history of previous abortion or medical termination of pregnancy. The study conducted by Roopa Malik et al. [21], (2017) revealed that 27 out of 102 patients (26.47%) had a history of tubal surgery. As per the risk factors identified, it can be inferred that. The study revealed that a history of spontaneous abortion was observed in 9 patients, accounting for 6.4% of the total sample, while induced abortion was reported in 6 patients, representing 4.3% of the sample. A total of 14 patients (10.0%) had a medical history of infertility, while 9 patients (6.4%) had a history of tuberculosis. Out of the total sample, 12 individuals, accounting for 8.6% of the population, reported a prior history of sterilization. The study revealed that a total of 11 (7.9%) patients had a medical history of both c-section and tubal surgery.

As per the website on Ectopic Pregnancy- The current investigation revealed that the majority of patients, specifically 107 (74.7%), exhibited the ampulla as the primary site, with the ovary being observed in 10 (7.1%) patients. Additionally, 5 (3.6%) patients presented with rudimentary horn ectopic pregnancy. As per the research conducted by Rashmi A Gaddagi et al. [24] (2012), it was observed that during laparotomy, the majority of cases were identified as ampullary pregnancies, with interstitial pregnancies following closely behind. According to a study conducted by Smita Singh, Mahendra G, et al. [13] in 2014, the ampullary part of the tube was the most commonly affected site, accounting for 44% of cases. According to the research conducted by Rajendra Wakankar et al. [14] (2015), the ampulla was found to be the most frequent location for tubal ectopic pregnancy, accounting for 53.84% of cases. The research conducted by Meenakshi Gothwal et al. [25] in 2018. According to Tak et al. [17] (2018), the fallopian tube was the most frequent location for ectopic pregnancy, accounting for 95% of cases. Among these cases, the ampulla segment of the fallopian tube was the most commonly affected site, representing 42.11% of cases. The authors also reported that tubal ectopic pregnancy was more prevalent than ovarian ectopic pregnancy, with rates of 93.58% and 3.84%, respectively. In a recent study conducted by Eugene M. Ikeanyi et al. [26], (2021), the incidence of tubal pregnancy was found to be 94.5%, with the left tube being affected in 51.9% of cases. The ampullary region was identified as the site of occurrence in 69.2% of cases, while the isthmic region was affected in 17.3% of cases. Similarly, Vamsi Mudadla et al. [20], (2021) reported that the ampulla was the most frequently affected site.

Based on the status of ruptured ectopic pregnancy.-The study revealed that a majority of 79.3% of the participants presented with ruptured ectopic pregnancy to the department, while the remaining 21.7% were unruptured. In a study conducted by Rashmi A Gaddagi et al. [24], (2012), it was found that the tube was ruptured in approximately 80% of cases and a hemoperitoneum was observed. According to a study conducted by Rajendra Wakankar et al. [14] in 2015, the majority of cases (86.61%) involved ruptured ectopic pregnancies. In a study conducted by Roopa Malik and colleagues [21], (2017), it was reported that out of the total ectopic pregnancies observed, 84.31% were ruptured while 15.68% were unruptured. In 79.48% of cases, a ruptured ectopic was observed.

In the study conducted by Prem Singh Tak et al. [17], (2018), it was found that a proportion of 11.53% of laparotomies were associated with unruptured cases. In relation to the duration of presentation, Ectopic Pregnancy can be categorized. In our study, 127 (90.7%) of the total patients had acute ectopic, while the rest 13 (9.3%) had chronic ectopic pregnancy. The research conducted by M.B. Swami and colleagues [18], (2015) revealed that acute ectopic pregnancy was identified in 14.71% of cases, while chronic ectopic pregnancy was detected in 85.29% of cases.

According to intraoperative findings.-Hemoperitoneum exceeding a volume of 500 ml was detected in 61 patients, accounting for 43.6% of the study population. Conversely, hemoperitoneum below 500 ml was observed in 55 patients, representing 39.3% of the cohort. According to study conducted by Rashmi A Gaddagi et al. [24], (2012) reported hemoperitoneum in 80.0% of cases. In 76% of the cases there was hemoperitoneum > 500 ml in the study done by Vamsi Mudadla et al. [20], (2021).

According to type of management- The current investigation involved surgical intervention in 133 individuals, accounting for 95.0% of the sample, whereas the remaining 7 participants (5.0%) received medical treatment. All the cases were managed by surgical management in the study by Rashmi A Gaddagi et al. [24], (2012) and Smita Singh Mahendra G et al. [13], (2014). Surgery by open method in the form of salpingectomy (92.3%), salpingo-oophorectomy (5.5%) and salpingostomy (2.1%) were the mainstay of management according to most. According to a study conducted by Sabina Yeasmin et al. [23], (2014), a small percentage of women (5%) were effectively treated with methotrexate. This finding is consistent with the work of Najma Bano Shaikh et al. (2014). According to Lingampalli Naga Saketha and colleagues, a

significant proportion of patients, specifically 76.7%, received surgical treatment. Shruthi Andola et al. [27], (2021) described that out of the 42 patients, 37 underwent surgery as primary modality of treatment and 5 patients underwent medical management. Only 2 patients had complete resolution with medical management while 3 failed medical management.

According to need of blood transfusion-In the present study blood transfusion was given during management in 131 (93.6%) patients, while BT was not given to 9 (6.4%) other patients. ICU Admission was deemed necessary for 65 patients, which accounted for 46.5% of the total sample. The remaining 75 patients, comprising 53.6% of the sample, were managed exclusively on an outpatient basis. As described by Rashmi A Gaddagi et al. [24], (2012) almost all the patients had intraoperative and/ or postoperative blood transfusions. In the study conducted by Sabina Yeasmin et al. [23], (2014), blood was administered to 78% of the patients, whereas in the study conducted by Eugene M. Ikeanyi et al. [26], (2021), 89.1% of the patients received blood transfusion. The study findings indicate that a vast majority of 138 patients (98.6%) were discharged upon completion of care, with a minimal occurrence of wound discharge/gaping observed in only 2 patients (1.4%). No maternal mortality is found in our study. Likewise, Most did not report any instances of mortality. Sabina Yeasmin et al. [23], (2014), Najma Bano Shaikh et al. [12], (2014), Rajendr Wakankar et al. [14], (2015) and Vamsi Mudadla et al. [20], (2021) have conducted research on the topic, whereas Eugene's contribution is not specified. According to Ikeanyi and colleagues [26], (2021), the case fatality was reported to be 1.56%.

5. Conclusion

Ectopic pregnancy is a medical condition characterized by significant morbidity and mortality, and is considered to be one of the emergent obstetric cases. The incidence of ectopic pregnancy is on the rise, which can be attributed to the early detection facilitated by the increased availability of highly sensitive diagnostic methods, including hormonal assays, transvaginal sonography, and laparoscopy. The mutilation of essential reproductive organs such as the fallopian tube, ovary, and occasionally the uterus can result in negative impacts on future fertility. Ectopic pregnancy is a significant risk associated with PID and abortions, both of which are commonly encountered in routine gynecological practice. Early diagnosis is crucial in cases where patients may not exhibit identifiable risk factors, thus necessitating a heightened level of suspicion. It is recommended that ultrasonography (USG), specifically transvaginal sonography (TVS), and adequately trained personnel be accessible at the primary healthcare level where antenatal health services are provided. Early detection of first-trimester complications such as ectopic pregnancies can aid in decreasing morbidity and mortality rates. The combination of B-HCG assay and prompt intervention can effectively reduce the morbidity and mortality associated with ectopic pregnancy by facilitating accurate identification.

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