

Study of ectopic pregnancy in a tertiary care center, Maharashtra, India

¹Dr. Priyanka Kunal Purohit, ²Dr. B B Yadav, ³Dr. Shwetambari S Navale, ⁴Dr. Chintan M Upadhyay

^{1,3} Assistant Professor in Department of OBGY at Dr. N D Desai Faculty of Medical Sciences and Research, Nadiad, Gujarat, India

² Professor and Head, Department of OBGY, at Government Medical College, Latur, Maharashtra, India

⁴ Associate Professor in Department of OBGY at Dr. N D Desai Faculty of Medical Sciences and Research, Nadiad, Gujarat, India

Corresponding Author:

Dr. Chintan M Upadhyay (drchintan1508@gmail.com)

Abstract

Background: Ectopic pregnancy (EP) is a life threatening emergency commonly being managed by primary care physicians where diagnosis is often being missed at the first contact.

Objectives: To study the etiological factors, clinical presentation and maternal outcome of cases of ectopic pregnancy.

Materials and Methods: This cross-sectional study was done among 50 confirmed cases of ectopic pregnancy at department of obstetrics & Gynecology in Government Medical College and Hospital, Latur, Maharashtra during October 2013 to September 2015. Data collection was done after ethical permission from institutional ethical committee and informed consent of clients. Inclusion criteria: All confirmed cases of ectopic pregnancy Exclusion criteria: All cases of intrauterine pregnancies.

Results: Highest number of participants (34%) belonged to 26-30 years age group and mean age was 27 years. Maximum participants (70%) were multipara. Present study noted 16% misdiagnosed cases of EP. Most common site of EP was noted at ampulla (68%). Tubectomy was the most common risk factor (28%), 'amenorrhea (80%)' was the most common clinical feature. Blood transfusion required in 78% cases and post-op wound infection in 12% cases.

Conclusion: The rising number of cases of EP poses a serious concern over maternal mortality. With advances in the field of medicine, more young women are adopting newer fertility control methods such as newer oral contraceptives, infrastructure contraceptive devices and various tubal surgeries to limit their families. Moreover, newer drugs for ovulation induction and tubal reconstructive surgeries have led to delayed conception with increased risk of EP.

Keywords: Ectopic pregnancy, pain in abdomen, salpingectomy, tubectomy

Introduction

Ectopic Pregnancy (EP) is a pregnancy implanted outside the cavity of the uterus. It is well recognized as a life-threatening emergency in early pregnancy [1-3]. Ectopic pregnancy (EP) is -A life threatening emergency commonly being managed by primary care physicians where diagnosis is often being missed at the first contact. Any women in reproductive age group with lower abdominal pain and vaginal bleeding often raises the suspicion of ectopic pregnancy but Sometimes women may present with nonspecific symptoms unaware of ongoing pregnancy can also present with hemodynamic shock [4].

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 [5, 6]. Several risk factors have been identified for ectopic pregnancies viz. pelvic inflammatory disease, previous pelvic surgery, previous ectopic pregnancy, intrauterine device usage, induction of ovulation, smoking etc. Incidence of ectopic pregnancies has been increasing in last two to three decades with reduction in mortality [7].

Clinical presentation of the ruptured EP is with acute abdomen, while in unruptured ectopic pregnancy, there is a triad of abdominal pain, vomiting and amenorrhoea [8]. So, the present study was conducted with objective to study the incidence, etiological factors, clinical presentation and maternal outcome of cases of ectopic pregnancy.

Materials and Methods

This cross-sectional study was done among 50 confirmed cases of ectopic pregnancy at department of obstetrics & Gynecology in Government Medical College and Hospital, Latur, Maharashtra during October 2013 to September 2015. Data collection was done after ethical permission from institutional ethical committee and informed consent of clients.

Inclusion criteria: All confirmed cases of ectopic pregnancy

Exclusion criteria: All cases of intrauterine pregnancies.

Study noted the clinical features, risk factors and maternal outcome among study participants. The data were recorded in an Excel sheet and descriptive analysis was performed, of which data are presented in the tables.

Results

Table 1: Socio-clinical parameters of study participants [N=50]

Parameter	Number (%)
Age Group (in year)	
15-20	8 (16)
21-25	11 (22)
26-30	17 (34)
31-35	9 (18)
36-40	5 (10)
Mean \pm SD	27 \pm 5.3
Socio-economic Class	
Low	29 (58)
Medium	21 (42)
Parity	
Nulliparous	15 (30)
1	10 (20)
2	17 (34)
3	8 (16)
Interval between last pregnancy & EP (in year)	
Nulliparous	15 (30)

1-2	5 (10)
3- 5	13 (26)
> 5	17 (34)

Side of EP	
True ectopy	42 (84)
Right	31 (73.8)
Left	11 (26.2)
Misdiagnosed	8 (16)
Site of EP	
Ampulla	34 (68)
Isthmus	5 (10)
Ovary	2 (4)
Fimbrial	4 (8)
Cornual	1 (2)
Ampulla + Isthmus	4 (8)
Surgical Management (n=34)	
Unilateral salpingectomy	44 (88)
Bilateral salpingectomy	3 (6)
Unilateral salpingo-oophorectomy	2 (4)
Cornual Resection	1 (2)

Table 1 shows that 16%, 22%, 34%, 18% & 10% participants were belonged to age group 15-20, 21-25, 26-30, 31-35 & 36-40 years respectively. Almost 58% participants were coming from lower socio-economic class and 30% participants were nullipara. The duration between last pregnancy and EP was less than 2 years was noted in 10% participants and more than 2 years noted in 60% participants. Misdiagnosed EP was noted in 16% participants. The site of EP Ampulla, Isthmus, Ovary, Fimbrial, Cornual & Ampulla + Isthmus was noted in 68%, 10%, 4%, 8%, 2% & 8% participants respectively. The surgical management for EP like Unilateral salpingectomy, bilateral salpingectomy, unilateral salpingo-oophorectomy & Cornual Resection was noted in 88%, 6%, 4% & 2% participants respectively.

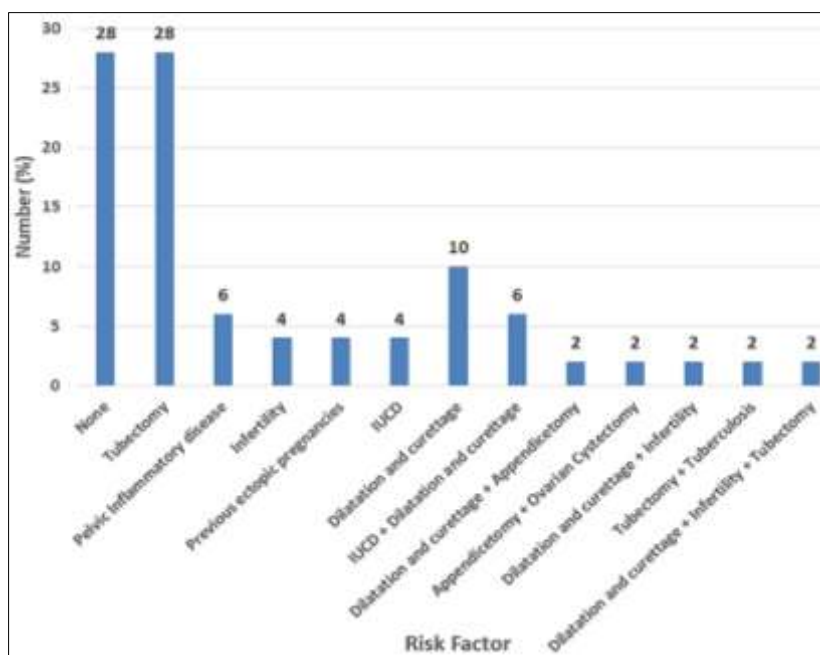


Fig 1: Risk factors noted among study participants

Figure 1 shows that risk factors like tubectomy, Pelvic Inflammatory disease, Infertility, Previous ectopic pregnancies, IUCD, Dilatation and curettage, IUCD + Dilatation and curettage, Dilatation and curettage + Appendectomy, Appendectomy + Ovarian Cystectomy, Dilatation and curettage + Infertility, Tubectomy + Tuberculosis & Dilatation and curettage + Infertility + Tubectomy was noted in 28%, 6%, 4%, 4%, 4%, 10%, 6%, 2%, 2%, 2%, 2% & 2% participants respectively.

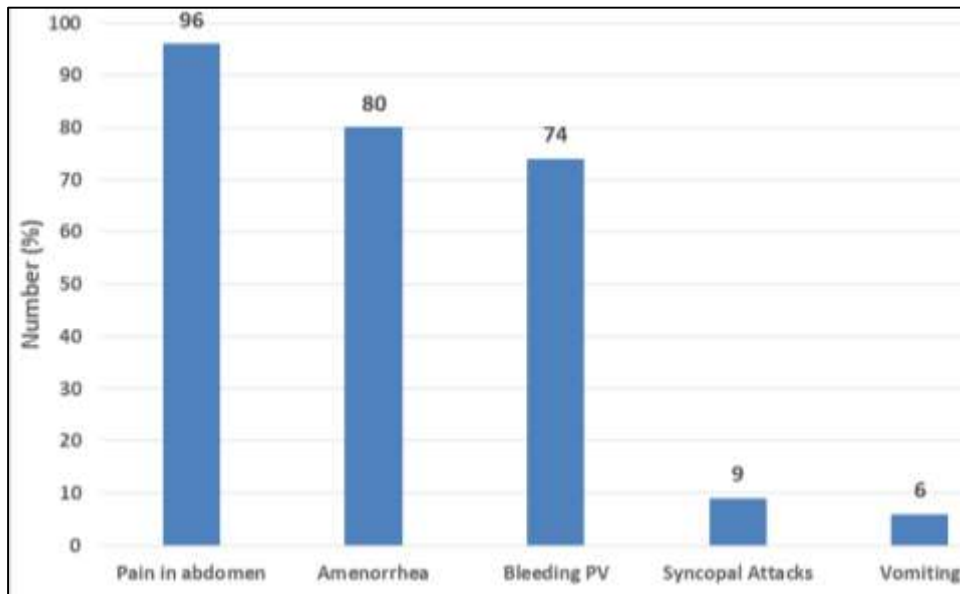


Fig 2: Clinical features noted among study participants [N=50]

Figure 2 shows that clinical features like Pain in abdomen, Amenorrhoea, Bleeding PV, Syncopal Attacks & Vomiting was noted in 96%, 80%, 74%, 9% & 6% participants respectively.

Figure 3 shows that incidence like Blood Transfusion, Post-op Hospital Stay, Post-op Wound Complication, Fever & Mortality was noted in 78%, 18%, 12%, 6%, 0% participants respectively.

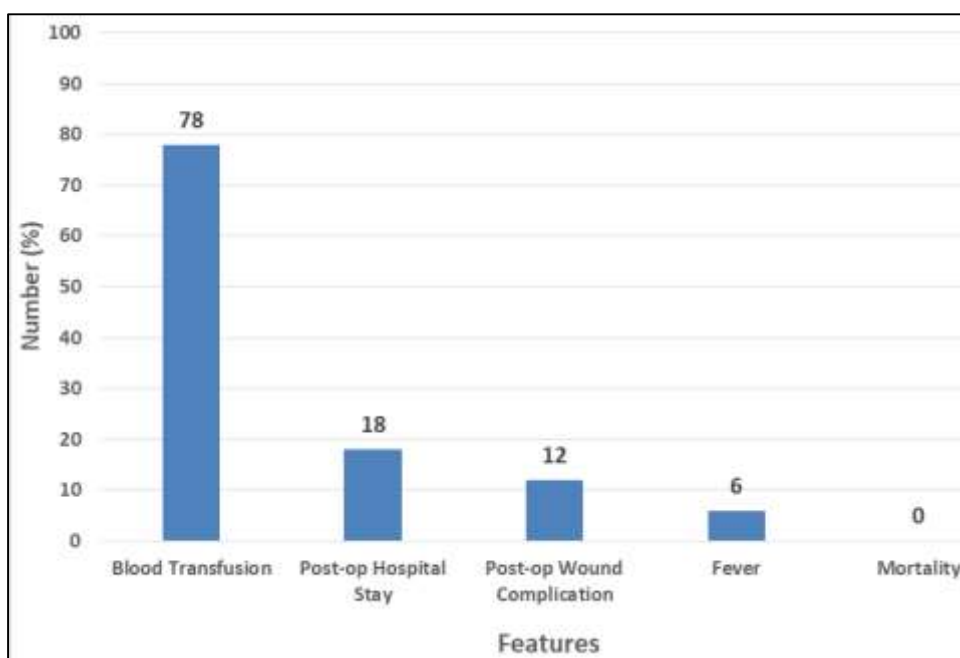


Fig 3: Morbidity and mortality associated with ectopic pregnancy [N=50]

Discussion

Present study found that highest number of participants (34%) belonged to 26-30 years age group and mean age was 27 years. These findings correlate with the study done by Patel UM *et al.* [9], Khera KR *et al.* [10], Andola S, *et al.* [11], Kulkarni MP *et al.* [8]. & Shukla DB *et al.* [7]. In a study conducted by Panchal D *et al.* [12]. 71.66% patients were in age group of 21-30 years of age, this may be because this is the period of maximum fertility and use of contraception is infrequent and occasional among these women. Poonam *et al.* [13]. Showed peak incidence in 26-30 years. Biologic explanations for such variation in ectopic pregnancy incidence rates are anatomic and functional age-related changes of the fallopian tubes and also repeated pelvic inflammatory disease that may induce tubal damages and predispose women to ectopic pregnancy [14].

More than half (58%) participants were belonged to lower S-E class. Maximum participants (70%) were multipara. In Panchal D *et al.* [12]. Study 80% of patients were of more than two parity. In study of Rashmi A. Gaddagi & Chandrashekhar *et al.* [15]. 27% were nulliparous, 10.8% were primiparous and the rest (62.2%) were multiparous. Present study noted 16% misdiagnosed cases of EP and 84% true ectopy cases, out of true ectopy cases most of cases (74%) were noted on right side of uterus. Most common site of EP was noted at ampulla (68%) followed by isthmus (10%). Most of cases (88%) of EP was treated by unilateral salpingectomy surgical method.

Present study found that ‘tubectomy’ was the most common risk factor (28%) and ‘pain in abdomen (96%)’ followed by ‘amenorrhea (80%)’ was the most common clinical feature noted among study participants. Present study noted that blood transfusion required in 78% cases and post-op wound infection in 12% cases. Mortality was not noted in any cases.

Table 2: Comparison of ‘type of risk factor’ noted in present study with other similar study

Risk factor	Rose J <i>et al.</i> [16]	Panchal D <i>et al.</i> [12]	Gaddagi RA <i>et al.</i> [15]	Andola S <i>et al.</i> [11]	Present study
Tubectomy	5.4	--	16.2	14.3	28
Pelvic Inflammatory disease	34.4	55	8.1	11.9	6
Infertility	--	11.6	16.2	9.5	4
Previous ectopic pregnancies	3.2	--	2.7	2.4	4
IUCD	21.5	--	12.8	9.5	4
Dilatation and curettage	19.4	--	18.9	9.5	10
IUCD + Dilatation and curettage	--	--	18.9	4.8	6
Dilatation and curettage + Appendicetomy	--	--	2.7	2.4	2
Dilatation and curettage + Infertility	--	--	--	4.8	2
Tubectomy + Tuberculosis	--	--	--	2.4	2

Andola S, *et al.* [11]. found Amenorrhea (83.33%) was the most common complaint followed by pain abdomen (73.81%). Bleeding per vagina was seen in 59.5% of patients. Other symptoms like nausea, vomiting, syncopal attacks were observed in 33.33% of patients. In the present study, 7 patients (16.66%) presented with shock as compared to 40.5% of patients in the study by Gaddagi RA *et al.* [15].

Conclusion

The study on EP which was conducted aimed at analyzing the socio-clinical characteristics, risk factors and clinical features related to EP. The most common risk factor associated with EP was a history of a tubectomy and abortion. The rising number of cases of EP poses a serious concern over maternal mortality. With advances in the field of medicine, more young

women are adopting newer fertility control methods such as newer oral contraceptives, infrastructure contraceptive devices and various tubal surgeries to limit their families. Moreover, newer drugs for ovulation induction and tubal reconstructive surgeries have led to delayed conception with increased risk of EP. Although EP can never be completely prevented, but its incidence can be reduced along with reduction of maternal morbidity and mortality by efficacious diagnostic and interventional strategies aimed at all the women at high risk for EP.

Funding: No funding sources.

Conflict of interest: None declared.

References

1. Singh S, Mahendra G, Vijayalakshmi S, Pukale RS. Clinical study of ectopic pregnancy in a rural setup: A two year survey. *Natl J Med. Res.* 2014;4(1):37-39.
2. Khaleeqe F, Siddiqui RI, Jafarey SN. Ectopic pregnancies: A three year study. *J-Pak Med Assoc.* 2001;51(7):240-42.
3. Udigwe GO, Umeononihu OS, Mbachu II. Ectopic pregnancy: A 5 year review of cases at nnamdi azikiwe university teaching hospital (NAUTH) Nnewi. *Niger Med J.* 2010;51(4):160.
4. Nitesh M, Radheshyam B, Savitri S. Study of ectopic pregnancy in a tertiary care centre. *Int J Reprod Contracept Obstet Gynecol.* 2020;9:212-5.
5. Shah P, Shah S, Kutty RV, Modi D. Changing epidemiology of maternal mortality in rural India: time to reset strategies for MDG-5. *Trop Med Int Health.* 2014;19(5):568-75.
6. Yadav K, Namdeo A, Bhargava M. A retrospective and prospective study of maternal mortality in a rural tertiary care hospital of Central India. *Indian J Community Health.* 2013;25(1):16-21.
7. Shukla DB, Jagtap SV, Kale PP, Thakkar HN. Study of ectopic pregnancy in a tertiary care centre. *Int J Reprod Contracept Obstet Gynecol.* 2017;6:975-9.
8. Kulkarni MP, Sulhyan KR, Parab AJ. Clinicopathological Study of Ectopic Pregnancy. *JMSCR.* 2017;5(9):27731-27736.
9. Patel UM, Gandhi MR, Jani PS, Kakani CR, Thakor N. Clinical profile and management of ectopic pregnancy in patients with ectopic pregnancy at GMERS medical college and hospital Dharpur-Patan, North Gujarat region, India. *Int J Res Med Sci.* 2015;3:841-5.
10. Khera KR. Ectopic pregnancy CA. Study of 55 cases. *J Obstet Gynecol India.* 1988;18:4-9.
11. Andola S, Kumar RR, Desai RM, Krutika SA. Study of Risk factors and treatment modalities of ectopic pregnancy. *J Family Med Prim Care.* 2021;10:724-9.
12. Panchal D, Gunvant V, Kunal S. Study of management in patient with ectopic pregnancy. *Natl J Integr Res. Med.* 2011;2:91-4.
13. Poonam, Uprety D, Banerjee B. Ectopic pregnancy-two years review from BPKIHS, Nepal. *Kathmandu Uni Med J.* 2005;3:365-9.
14. Soper DE. Pelvic inflammatory disease. *Obstet Gynecol.* 2010;116:41928.
15. Rashmi A Gaddagi RA, Chandrashekhar AP. A clinical study of ectopic pregnancy. *J Clin Diagn Res* 2012;6:867-9.
16. Rose J, Thomas A, Mhaskar A. Ectopic pregnancy 5 years' experience. *J Obstet Gynecol India.* 2002;52(4):55-8.