

Ectopic Pregnancy Patients and Their Risk Factors- A Cross Sectional Study¹Dr.P.Vairamala, ²Dr. S.V.R. Thenmozhi, ³S.Padmanaban, ⁴Dr. Vinodhini.S¹Senior Assistant Professor of Obstetrics & Gynaecology, Kilpauk Medical College.²Senior Assistant Professor, Thiruvannamalai Medical College, Thiruvannamalai.³Scientist B (Non Medical), NIRRH Field unit, Govt. KMC Hospital, Chennai 600 010⁴Postgraduate, Dept. of OBGYN, Govt. Kilpauk Medical College, Chennai 10.**Correspondence Author:** Dr. S.V.R. Thenmozhi, Senior Assistant Professor, Thiruvannamalai Medical College, Thiruvannamalai, India**Conflicts of Interest:** Nil.**Abstract**

Background: Ectopic Pregnancy is originated from 'Ektopos', a Greek word. In ectopic pregnancy the fertilized ovum implants outside the endometrial cavity of the uterus [1]. The most common extra uterine pregnancy is the tubal pregnancy in which a fertilized ovum implants in the fallopian tubes. Tubal pregnancies account for 98% of all ectopic gestations. Other sites like ovary, cervix, horn of the uterus, caesarean scar and abdominal cavity are rare [2].

Ectopic pregnancy is an important cause of maternal morbidity & mortality in early pregnancy on the one hand, there is a high chance of inaccurate diagnosis on the other hand, and clinician might be faced with severe problems like life threatening haemorrhage. A variety of therapeutic options are available but there are no standard guidelines regarding the ideal management. Conservation of future fertility has priority while severe haemorrhage also needs to be prevented.

Materials and Methods**Study area**

The study was conducted at Govt Kilpauk Medical College and Hospital. KMCH is a tertiary care centre and a teaching hospital for undergraduate and post graduate

students. It is a main referral centre for primary health centers and government hospitals, situated in Chennai.

Study design: The study was a cross-sectional study.**Sample size**

The study consists of 'n' no. of ectopic pregnancy cases attended in Govt Kilpauk Medical College and Hospital Obstetrics and Gynaecology department for a particular time period.

Duration of the study: From July 2012 to June 2014 for a period of 2 years.**Inclusion criteria:** All cases of ectopic pregnancy / suspected ectopic pregnancy by clinical or sonological method.**Results:** A total of 138 patients were recruited in the study. The study population was estimated to be 0.94% of total deliveries (14,688) and 0.73% of total gynaec ward admissions (18,939) during the study period. 5 patients in the study had undergone medical management. Remaining 133 patients had undergone laparotomy. During laparotomy 124 patients were found to be having ectopic pregnancy which was confirmed by histopathology. One patient had heterotypic pregnancy. One patient had negative laparotomy. Remaining 7 patients had other gynecological lesions.

Conclusion: Ectopic pregnancy is famous for its diversity of clinical presentations and atypical presentations. Strong suspicion is required for its early diagnosis.

Keywords: Ectopic Pregnancy

Introduction

Ectopic Pregnancy is originated from 'Ektopos', a Greek word. In ectopic pregnancy the fertilized ovum implants outside the endometrial cavity of the uterus [1]. The most common extra uterine pregnancy is the tubal pregnancy in which a fertilized ovum implants in the fallopian tubes. Tubal pregnancies account for 98% of all ectopic gestations. Other sites like ovary, cervix, and horn of the uterus, caesarean scar and abdominal cavity are rare [2].

Incidence of ectopic pregnancy varies among different countries and also within the same country from place to place. The incidence is around 0.3 - 0.5% of deliveries in the U.S. and U.K., 4% of deliveries in Ghana and 2.1% of deliveries in Nigeria [3,4,5].

In Shraddha Shetty K et al Study in India, the incidence was 5.6 /1000 deliveries [6]. In Rashmi Gaddagi et al study the incidence was 1:399 pregnancies [7]. In a study conducted by Porwal Sanjay et al, the incidence was 2.46 / 1000 deliveries [8].

In current century, the developed countries are facing with four-fold rise in the occurrence of ectopic pregnancy (from 0.3 to 1.2%) [9,10]. This rise is mainly because of advanced techniques for diagnosing the ectopic pregnancy in earlier stage and increased prevalence of ART & PID [11,12].

Ectopic pregnancy is a gynecological emergency. In developing countries like India, late presentations with tubal rupture and haemo dynamic instability are seen in most of the cases. In developing countries, ectopic pregnancy remains an important cause of first trimester maternal morbidity and mortality [13]. Fetal wastage,

recurrence and impairment of subsequent fertility are the most important concerns [14].

Though maternal mortality has decreased and almost very rare now a days, it has been reported by Arpita N et al that ectopic pregnancies account for 7.1% of all pregnancy related deaths in rural India [15]. The main causes of these deaths are due to wrong diagnosis, delayed diagnosis and late admissions with severe hypovolemic shock. Ruptured ectopic pregnancies with severe intra-abdominal bleed may present with gastrointestinal symptoms like nausea, vomiting, diarrhea and poses a great challenge in correct diagnosis [16].

The management of ectopic pregnancies has been revolutionized in developed countries, because of the availability of laparoscopic techniques, medical therapy, uterine artery ligation and more advanced diagnostic modalities which help in early diagnosis, better conservation of future fertility [17], shorter hospital stay & reduced surgical morbidity. Due to several factors like delay in seeking health care, absence of investigations (like beta HCG, progesterone assays, transvaginal sonography) and lack of suspicion in the diagnosis of ectopic pregnancy by most of the inexperienced clinicians, early diagnosis is almost impossible in most developing countries [18].

In developing countries, many studies have shown that the ectopic gestation case fatality rate was 1 % - 3%. This is 10 times more than the case fatality rates reported in developed countries [19].

Although no risk factors have been identified in most of the cases with ectopic gestation, studies have highlighted that the awareness of risk factors associated with ectopic gestation helps in identifying the cases early [20]. Main risk factor is the prior tubal damage due to any cause [20]. Chlamydial infection was found to be the risk factor for 30 - 50% of all ectopic gestation [21].

The incidence of rupture has declined in the last decades due to the availability of quantitative HCG assays, transvaginal sonography and minimally invasive surgeries [25].

Early diagnosis of ectopic pregnancy helps to reduce the incidence of rupture. So, the physician can provide conservative medical and surgical treatments [26].

Since, ectopic pregnancy is an important health problem among there productive age group women, the study was aimed to determine the clinical profile of the patients as well as the risk factors so as to make recommendations in order to reduce the incidence of this life-threatening event.

Justification of the Study

Ectopic pregnancy is an important cause of maternal morbidity mortality in early pregnancy on the one hand, there is a high chance of inaccurate diagnosis on the other hand, and clinician might be faced with severe problems like life threatening haemorrhage. A variety of therapeutic options are available but there are no standard guidelines regarding the ideal management. Conservation of future fertility has priority while severe haemorrhage also needs to be prevented.

Ectopic pregnancy is a challenge for the clinician due to its bizarre clinical presentation. The diagnosis is complicated by the wide spectrum of presentations, from asymptomatic cases to acute abdomen and hemorrhagic shock.

Its ambiguous presentation may mimic most of the surgical and gynecological emergencies.

The frequency of ectopic pregnancy has been increased during the last decades because of the increased incidence of sexually transmitted infections, advent of antibiotics, increased awareness and usage of various contraceptive methods and assisted reproductive technologies [27].

Prior damage to the fallopian tubes, resulting from previous ectopic pregnancy and previous tubal surgeries

to relieve infertility or for sterilization remains the highest risk factor for ectopic pregnancy [28].

A greater understanding of the etiology, an accurate history taking and relevant physical examination and its correlation with diagnostic techniques is critical for the development of preventive measures, early diagnosis and the development of novel treatments [29].

In developed countries, the management of ectopic pregnancies has dramatically improved, with less radical procedures performed with laparoscopy and medical management being increasingly utilized [30]. This is possible because majority of the patients are diagnosed early with the use of high resolution USG and improved biochemical detection of beta HCG. However, in developing countries like India, salpingectomy by laparotomy still remains the main stay of treatment as majority of our patients present with tubal rupture. This is due to lack of awareness, ignorance, poverty, lack of adequate health services and difficulty in transportation [31].

Ectopic pregnancy could be considered as a public health indicator in the developing world, because ectopic pregnancy presents as an acute emergency and it is a life-threatening event, providing an overall picture of a health system capacity to handle with the diagnosis and management of emergency situations.

Ectopic pregnancy is an emergency situation in which timely intervention will reduce the maternal mortality & morbidity. Clinical presentation varies from case to case and still there is a chance of missing the diagnosis in a small proportion of patients even with the availability of advanced imaging techniques. For early diagnosis, a clinician should be well aware about the various presentations of ectopic pregnancy. My study will provide a detailed clinical description on ectopic pregnancy.

Aim of the Study

A detailed study on ectopic pregnancy over a particular time period in order to determine the incidence, risk factors, clinical features, diagnostic methods, treatments, morbidity and mortality associated with ectopic pregnancy in a tertiary care hospital and analysis of various aspects of ectopic pregnancy with a view to suggest interventions to join the global trend of early diagnosis and conservative management.

Objectives

1. To know the incidence of ectopic pregnancy.
2. To know the age group, parity, sterilization status with respect to ectopic pregnancy.
3. To analyse the various risk factors associated with ectopic pregnancy.
4. To describe the clinical presentation of ectopic pregnancy.
5. To determine the sensitivity and specificity of amenorrhoea, abdominal pain and vaginal bleeding in diagnosing ectopic pregnancy among the suspected cases.
6. To determine the positive and negative predictive values of amenorrhea, lower abdominal pain and vaginal bleeding among the suspects.
7. To determine the sensitivity & specificity of cervical excitation test.
8. To determine the sensitivity and specificity of UPT, culdocentesis & USG among the suspects.
9. To determine the factors associated with time delay between admission & onset of treatment.
10. To determine the factors associated with radical procedures over conservative management.
11. To apply medical management criteria for all cases of unruptured ectopic pregnancy.

Materials and Methods

Study area

The study was conducted at Govt Kilpauk Medical College and Hospital. KMCH is a tertiary care centre and a teaching hospital founder graduate and post graduate students. It is a main referral centre for primary health centers and government hospitals, situated in Chennai.

Study design

The study was a cross-sectional study.

Sample size

The study consists of 'n' no. of ectopic pregnancy cases attended in Govt Kilpauk Medical College and Hospital Obstetrics and Gynaecology department for a particular time period.

Duration of the study

From July 2012 to June 2014 for a period of 2 years.

Inclusion criteria

All cases of ectopic pregnancy / suspected ectopic pregnancy by clinical or sonological method.

Exclusion criteria

The study involved all cases of ectopic pregnancy. There were no exclusion criteria.

Data collection tool was used to collect the different information. Face to face interviews were conducted using data collection tool by the investigator including detailed history taking and relevant physical examination.

A detailed history was taken from the patient (if the patient was in shock the history was taken retrospectively). After taking history, physical examination was done especially for vital signs, abdominal examination, per vaginal examination, cervical excitation test and culdocentesis is when needed.

The basic investigations including haemoglobin, renal function test, blood grouping and Rh typing, urine pregnancy test and ultrasound examination were done in all patients. Additional investigations like serum beta

HCG, Doppler study, CT, MRI were ordered in case of doubtful diagnosis.

All data were collected on a structural data form (sample enclosed) and analysed for descriptive statistics. Information regarding patient profile, risk factors, sterilization status, use of other contraceptive methods, presenting symptoms and signs, physical examination, ultrasound findings, types of treatment, per operative findings, no of transfusions, post-operative morbidity and length of hospital stay were analysed.

Results

Post operatively HPE report was collected from the pathology department and final diagnosis was made.

Data were summarized in tables and figures. For calculation of sensitivity, specificity, positive and negative predictive values for the diagnosis of ectopic pregnancy, 2- by2- contingency tables were used.

Results

A total of 138 patients were recruited in the study. The study population was estimated to be 0.94% of total deliveries (14,688) and 0.73% of total gynaec ward admissions (18,939) during the study period.

5 patients in the study had undergone medical management. Remaining 133 patients had undergone laparotomy. During laparotomy 124 patients were found to be having ectopic pregnancy which was confirmed by histopathology. One patient had hetero topic pregnancy. One patient had negative laparotomy. Remaining 7 patients had other gynecological lesions.

Discussion

In the present study, the incidence of ectopic pregnancy was 8.7 per 1000 deliveries. In a study conducted by Shraddha Shetty k et. al in Mangalore, the incidence was 5.6/1000 deliveries^[6]. In a study conducted by Rashmi et. al, the incidence was 1: 399 pregnancies^[7]. In a study

conducted by Porwal Sanjay et al, the incidence was found to be 2.46 per 1000 deliveries^[8].

Majority of the patients (63.8%) were in the age group of 21 to 30 years in our study. Similar results were found in Smita singh et.al and Samiya Mufti et.al studies^[70,65]. This corresponds to the age of peak sexual activity and reproduction. There are studies stating that age related tubal changes increase the incidence of ectopic pregnancy^[63,64].

In our study multi gravida (75.4%) were found to be more prone to have an ectopic pregnancy. This result was similar to other studies conducted by Shraddha Setty et.al and Laxmi Karki et al^[6,257]. In Laxmi Karki study 61 % were multiparous women.

Majority (54.3%) of the patients presented with 5 to 8 weeks of amenorrhea representing the time period required for the growing ectopic gestation to distend the tube and cause symptoms. This result are consistent with those from Tang BD et.al and Panti A et.al^[10,13].

Among the nulliparous women 62.5% had history of sub fertility for more than one year. Similar findings were obtained in Tanveer Shafquat et.al study^[99].

The commonest risk factors among the study population were previous LSCS, tubal surgeries, previous ectopic pregnancies, prior H/O abortions, H/O infertility and pelvic inflammatory disease. Similar risk factors were noted in various other studies^[6,8]. The increasing trending caesarean section was found to be associated with increased risk of ectopic pregnancy. 6 patients had H/O MTP pills intake. The significance of this risk factor needs further studies. 7 patients gave history of ovulation induction. Advancement in infertility treatment was associated with significant risk of ectopic pregnancy.

In our study, 25 (18.1%) cases were post sterilization ectopic pregnancies. Among the sterilization methods, concurrent and puerperal sterilization were found to be

associated with higher number of ectopic pregnancies. Ectopic pregnancies most commonly occurred 3 to 10 years after the sterilization surgery.

The most common presenting symptom was abdominal pain which was found in 94.9% of patients, followed by amenorrhea in 72.5% of the patients. The classic triad was present only in 31.9% of cases. In Porwal Sanjay et al study, 90% reported amenorrhea and 87.5% reported abdominal pain^[8]. In some cases, gastrointestinal and vaso vagal symptoms are the presenting complaints. In our study the classic triad has 100 % specificity and positive predictive value, but low sensitivity.

The most common examination findings were tachycardia (51.4%) and hypotension (12.3%) .6.5% of the patients presented with shock. Tachycardia was not present in all case of ruptured ectopic pregnancy.48.6% of patients were severely anaemic with Hb less than 5 grns%.

In per abdominal examination, abdominal tenderness (56.5%) was the most common finding. In per vaginal examination fornicial tenderness (57.2%) was the most common finding. Cervical excitation test was positive in 72.5%. Culdocentesis was done only in 39 patients. Among them 38 were positive. In P/V the presence of adnexa mass has highest specificity and positive predictive value (100%).

Urine pregnancy test and ultrasound examination were done in all patients. Serum beta HCG was sent only in hemodynamically stable patients with unruptured ectopic pregnancy to decide for medical management and in doubtful cases.UPT has highest (98.4%) sensitivity, but the specificity was low. In ultrasound examination empty uterus, adnexal mass and free fluids were strongly suggestive of ectopic pregnancy, especially in the presence of positive UPT.

Medical management criteria were applicable in 11 patients. Among them only 5 patients had medical

management. Remaining were multifarious women who wanted definitive surgery rather than medical management. Multi dose methotrexate regimen was used in all 5 patients and was treated successfully.

Treatment delay for more than 2 hrs was present in 36 (26%) patients. The most common reason for time delay was late diagnosis of ectopic pregnancy. In these cases, diagnosis was misguided by atypical presentation, wrong referral diagnosis and atypical ultrasound findings. 8patients had admitted in wrong wards and then transferred to O &G ward. Time delay was found to be associated with more morbidity.

In surgically managed group all 132 patients under went laparotomy. Total/partial salpingectomy and salphingo oophorecto my were the common surgeries performed. In developing countries open method by laparotomy still remains the most commonly used management for ectopic pregnancy. But the trend is changing towards the laparoscopic surgery and conservative management. In Samiya Mufti et.al study the surgical management was by open method in all cases^[65]. During laparotomy 109 (79%) cases were found to be ruptured including one chronic rupture. In developing countries still majority of cases present late with rupture. This was evidenced by many studies^[6,7,65].

Ampulla was the most common site of the ectopic pregnancy found in 43.5%of the patients. This result was similar to other studies^[7,70]. During laparotomy124 patients were found to be having ectopic pregnancy. One patient was found to be having a rare variety of pregnancy known as heterotypic pregnancy. One patient had negative laparotomy. One patient was found to be having dermoid cyst. One patient had ovarian cyst. Remaining 5 patients were diagnosed as ectopic pregnancy per operatively, then diagnosis was changed to gynaec lesions(3 corpus luteal cyst and 2 simple ovarian cyst) after HPE report.

Additional findings during laparotomy were corpus luteal cyst in 5 patients, fimbrial cyst in 2 patients, uterine anomalies in 3 patients, ovarian pathology in 13 patients, endometriosis, haematosalpinx and hydrosalpinx each in 1 patient. Adhesions were found in 26 patients.

Only one patient had hysterectomy for uncontrolled bleeding from the ruptured site of cornual ectopic pregnancy. Only one patient required post-operative ventilator support. No maternal mortality was found during the study period. This result was consistent with Rashmi et.al study^[7].

40 (29%) patients had haemoperitoneum of more than one litre. 65 (47.1%) patient's required more than one unit of blood transfusion. Massive haemoperitoneum was most commonly found in cornual and isthmus ruptured ectopic pregnancies.

Post-operative anemia and fever were found to be more common in ruptured ectopic pregnancies when compared to unruptured ectopic pregnancies.

12 (8.7%) patients required prolonged hospital stay for more than 10 days. The factors associated with prolonged hospital stay were medical management, anemia correction, post-operative fever and late diagnosis.

Conclusion and Recommendations

1. Ectopic pregnancy is famous for its diversity of clinical presentations and atypical presentations. Strong suspicion is required for its early diagnosis.

2. Amenorrhea is not necessary for the diagnosis of ectopic pregnancy. UPT and ultrasound should be advised to all reproductive age group patients presenting with abdominal pain, bleeding p/v with or without amenorrhea.

3. Sterilization could not rule out the possibility of an ectopic pregnancy. So, we should advise the patients to come for checkup if she misses the periods as early as possible.

4. The recommended sterilization techniques should be followed strictly.

5. To join the global trend of conservative management for ectopic pregnancy, early diagnosis before rupture is important.

6. Ultrasound is the simple and gold standard diagnostic method for ectopic pregnancy in low resource settings.

7. Routine first trimester ultrasound should be done in all pregnant women at the booking visit itself.

8. UPT kits and sonographic equipments should be made available in all primary health centers and emergency gynecological units.

9. Staffs should be trained adequately to use and interpret the sonographic images.

10. Early diagnosis and referral is the key factor in reducing the maternal morbidity and in preserving the future fertility.

11. Because of the high incidence of tubal rupture in our set up, community education is required to inform the women to attend the health facilities as early as possible once they have symptoms .

Bibliography

[1]. Walker JJ. Ectopic pregnancy. Clin Obstet Gynecol. 2007; 50: 8999.

[2]. Rajkhowa, M., Trends in the incidence of ectopic pregnancy in England and Wales from 1966 to 1996. BJOG, 200. 107((3)): p. 369-74.

[3]. Geoffrey C. Ectopic Pregnancy. In: Obstetrics by Ten Teachers. Chamberlain G (ed), 16th edition. Churchill Livingstone Pub. London. 1997: 162-165.

[4]. Kwawukume EY, Idrissa A. Ectopic Pregnancy. In: Comprehensive Obstetrics in the Tropics. Kwawukume EY and Emuveyan EE (Eds). Asante Hittscher Printing, Accra; 2000: 21-28.

[5]. Osaheni L Lawani, Okechukwu B Anozie, Paul O Ezeonu . Ectopic pregnancy: a life-threatening

- gynecological emergency. *International Journal of WomensHealth* 2013;5:515-521.
- [6]. Shraddha shetty k et.al ; a clinical study of ectopic pregnancies in a tertiary care hospital of Mangalore. *Innovative Journal of Medical and Health Science* 4 : 1 Jan - Feb(2014) 305-309.
- [7]. Rashmi A Gaddagi, AP Chandrashekhar. A Clinical Study of Ectopic Pregnancy. *JCDR* 2012;6:2867-869
- [8]. Gupta R, Porwal S, Swamkar M, Sharma N, Maheshwari P. Incidence, trends and risk factors for Ectopic Pregnancies in a tertiary care hospital of Rajasthan. *JPBMS* 2012; 16 (07):1-3
- [9]. Rotas, M.A., S. Haberman, and M. Levgur, Cesarean scar ectopic pregnancies: etiology, diagnosis, and management. *Obstet Gynecol*, 2006. 107((6)): p. 1373-81.
- [10]. Tang, A., D. Baartz, and SK. Khoo, A medical management of interstitial ectopic pregnancy: a 5 year clinical study. *Aust N Z J Obstet Gynaecol.*, 2006. 46((2)p):. 107-11.
- [11]. Barnhat K T, G.C., Reinl B, usefulness of pipelle endometrial biopsy in the diagnosis of women at risk of ectopic pregnancy. *AMJ obstet. Gynecol*, 2003. 188: p. 906-9.
- [12]. Aboulfoutouh, I. I.; Youssef, M. A.; Zakaria, A. E.; Mady, A. A. & Khattab, S.M. (2011). Cervical twin ectopic pregnancy after In Vitro fertilization-Embryotransfer (IVFET): case report. *Gynecol Endocrine*, (April 2011), [Epub ahead of print]
- [13]. Panti A, Ikechukwu NE, lukman OO, Yakubu A, Egundu SC, Tanko BA. Ectopic pregnancy at Usmanu Danfodiyo University Teaching Hospital Sokoto: a ten year review. *Ann Niger Med*. 2012;6(2):879-1.
- [14]. Abdul Fl. Ectopic pregnancy in Ilorin: a review of 278 cases. *Niger J Med*. 2000;9(3):929-6.
- [15]. Arpita N. A retrospective and prospective study of maternal mortality in a rural tertiary care hospital of Central India. *Indian Journal of Community Health*, 2013. 25(1).
- [16]. Jurkovic D, Wilkinson H: Diagnosis and management of ectopic pregnancy. *BMJ* 2011;342:d3397 doi: 10.1136/bmj.d3397
- [17]. Murray, H., Diagnosis and treatment of ectopic pregnancy. *CMAJ*, 2005. 173((8)): p. 905-12.
- [18]. Amoko, DH. and G. A. Buga., Clinical presentation of ectopic pregnancy in Transkei, South Africa. *East Afr Med J*., 1995. 72((12)): p. 770-3.
- [19]. Goyaux N, Leke R, Keita N, Thonneau P. Ectopic pregnancy in African developing countries. *Acta Obstet Gynecol Scand* 2003; 82:305-12
- [20]. Karaer, Avsa Fr A, Batioglu Su. Risk factors for ectopic pregnancy: a case control study. *Aust N Z J Obstet Gynaecol*. 2006; 46:521-527
- [21]. Tumer C, Homer P, et al. British Fertility Society Impact of Chlamydia trachomatis in the reproductive setting: British Fertility Society Guidelines for practice. *Hum Fertil (Camb)* 2010; 13:115-125.
- [22]. Monga A. Ectopic pregnancy. In: Monga A, Baker P, editors. *Gynaecology by Ten Teachers*. 18th ed. London: Hodder Education; 2006:979-9.
- [23]. Ectopic Pregnancy Clinical Presentation Author: Vicken P Sepilian, MD, MSc; Chief Editor: Michel E Rivlin, MD more... Updated: May 2, 2014
- [24]. Varma R, Gupta .1, Tubal ectopic pregnancy. *Clin Evid (online)* 2009;2009:pil406
- [25]. Timmerman D. Predictive models for the early diagnosis of ectopic pregnancy. *Verh K Acad Geneeskd Belg*. 2004; 66 (2): 155-71.

Table: 1 Risk Factors

S.No	Risk Factors	No. of Patients
1	Prior H/O abortions	25
2	Prev LSCS	44
3	Sterilization	25
4	Tubal recanalisation	1
5	Other pelvic surgeries	1
6	Prev ectopic	6
7	PID	19
8	Ovulation induction	7
9	ART	3
10	IUCD	8
11	Emergency pills	1
12	MTP pills	6
13	Combined OCP	1
14	POP	1
15	No risk factors	37

Previous LSCS was the most common risk factor followed by tubal surgeries, abortions and PID. In some cases, more than one risk factor was seen.

No risk factors were identified in 37 (26.8%) cases. One or more risk factors were identified in 101(73.2%) cases.

Table: 2 Clinical Symptoms

S.No	Clinical symptoms	No. of patients	% out of 138 patients
1	Amenorrhoea	100	72.5
2	Abdominal pain	131	94.9
3	Bleeding p/v	59	42.8
4	Amenorrhoea, Abdominal pain	94	68.1
5	Amenorrhoea, Bleeding p/v	47	34.1
6	Abdominal pain, Bleeding p/v	56	40.1
7	Amenorrhoea, Abdominal pain, Bleeding p/v	44	31.9
8	Vaso vagal symptoms	10	7.2
9	Gastro intestinal symptoms	11	8.0
10	Urinary symptoms	3	2.2
11	Anasarca , breathlessness	1	0.7