



ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

A DESCRIPTIVE STUDY ON ECTOPIC PREGNANCY IN A TERTIARY CARE CENTRE

KEY WORDS:

Dr Vikram Meena

Resident Doctor Dept. of Obs & Gynae, JLN Medical College Ajmer.

Dr. Deepali Jain

Senior Professor Dept. of Obs & Gynae, JLN Medical College Ajmer.

Dr. Ajay Sharma*

Associate Professor Dept. of Obs & Gynae, JLN Medical College Ajmer.
*Corresponding Author

ABSTRACT

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 diagnosis in a small proportion of patients even with availability of advanced imaging techniques. For early diagnosis a clinician should 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. **MATERIALS AND METHODS:** The prospective study was conducted at RMC, JLN medical college, Ajmer and hospital during April 2019 to March 2020. The study was done on 100 cases of ectopic pregnancies who attended JLN Medical College and Hospital, Department of Obstetrics and Gynaecology in a time duration of one year from April 2019 to March 2020. All cases of ectopic pregnancies suspected or diagnosed clinically or by USG. **RESULTS:** In the present study, the incidence of ectopic pregnancy was 8.7 per 1000 deliveries. Majority of the patients (64%) were in the age group of 21 to 30 years in our study. In our study multigravida (70%) were found to be more prone to have an ectopic pregnancy. Urine pregnancy test was positive in 91 patients (91%). Negative in 3 patients (3%). Weakly positive in 6 patients (6%). Tubal surgeries was the most common risk factor followed by abortions and PID. In some cases more than one risk factor was seen. No risk factors were identified in 25 (25%) cases. One or more risk factors were identified in 75 (75%) cases. In our study 20 (20%) cases were post sterilisation ectopic pregnancies. The most common presenting symptom was abdominal pain which was found in 95% of patients, followed by amenorrhoea in 75% of the patients. The classic triad was present only in 35% of cases. Other Per operative findings during laparotomy were fimbrial cyst in 2 patients, uterine anomalies in 3 patients, ovarian pathology in 11 patients, haematosalpinx in 3 patient and hydrosalpinx in 5 patient. Adhesions were found in 26 patients. Medical management criteria was applicable in 8 patients. Multi dose methotrexate regimen was used in all 8 patients. In surgically managed group all 92 patients underwent laparotomy. During laparotomy 80 (80%) cases were found to be ruptured including three chronic rupture. **CONCLUSIONS:** Early diagnosis with clinical examination, use of ultrasonography, beta HCG levels, and immediate intervention is crucial in the management of ectopic pregnancy to reduce the mortality. Surgical morbidity can be avoided with conservative surgeries. Literacy, health education, good ambulance services plays vital role in reducing the morbidity in rural areas.

INTRODUCTION

Ectopic pregnancy is defined as when the gestational sac implants itself outside the uterus, i.e. fallopian tubes, ovary, cervix and peritoneum. It is an obstetric emergency with high morbidity and mortality. It is the fifth most common cause of death according to the most recent triennial report and also the most common cause of maternal mortality in first trimester. The rate is about 1- 2% of that of live births in developed countries, though it is as high as 4% in pregnancies involving assisted reproductive technology. It has been observed all over the world that incidence of ectopic pregnancy has increased during the last few years. A number of causes have been attributed to it of which most are due to changing living trends of the society; increasing maternal age, tubal surgeries, pelvic inflammatory diseases, endometriosis, exposure to diethylstilbestrol (DES) in utero, taking hormonal pills containing estrogen, use of an intrauterine device (IUD), history of tuberculosis and assisted reproductive techniques.

A meta- analysis has identified four strongly associated risk factors from the history, which are; previous ectopic pregnancy, previous tubal surgery, evidence of tubal pathology and in utero exposure to DES. The current incidence of ectopic pregnancy is difficult to estimate from available data (hospitalizations, insurance billing records) because inpatient hospital treatment of ectopic pregnancy has decreased and multiple health care visits for a single ectopic pregnancy have increased, and also because it is

difficult to determine the denominator (incidence of ectopic pregnancies/1000 pregnancies), as early pregnancy failures that do not result in delivery or hospitalization are often not counted. Nearly 2% of all ectopic pregnancies become established in other areas including the ovary, the cervix or the intra-abdominal region. Rupture of an ectopic pregnancy is a surgical emergency. History and clinical examination of patient together with serum beta HCG measurements and TVS examinations are done to reach to a final diagnosis. Early treatment of an ectopic pregnancy with methotrexate is a viable alternative to surgical treatment. Surgical treatment becomes necessary if rupture has already occurred.

Laparoscopy or laparotomy is performed in such cases and the affected fallopian tube is incised with removal of only the pregnancy (salpingostomy) or the affected tube is removed with the pregnancy (salpingectomy).

METHODOLOGY

Study area

The prospective study was conducted at RMC, JLN medical college, Ajmer and hospital during April 2019 to March 2020.

Sample size

The study was done on 100 cases of ectopic pregnancies who attended JLN Medical College and Hospital, Department of Obstetrics and Gynaecology in a time duration of one year from April 2019 to March 2020.

Inclusion criteria

All cases of ectopic pregnancies suspected or diagnosed clinically or by USG.

Methods and materials

Data collection tool was used to collect the different information. A detailed history was taken from the patient (if the patient was in shock the history was taken retrospectively by attendants). After taking history physical examination was done especially for vital signs, abdominal examination, per vaginal examination, cervical excitation test and culdocentesis when needed.

The basic investigations including haemoglobin, renal function test, LFT, blood grouping and Rh typing, urine pregnancy test and ultrasound examination of abdomen and pelvis was done in all patients. Additional investigations like serum beta hCG, doppler study was 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, sterilisation 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 was analysed.

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

RESULTS:

The study was done on 100 cases of ectopic pregnancies who attended JLN Medical College and Hospital, Department of Obstetrics and Gynaecology in a time duration of one year from April 2019 to March 2020.

TABLE 1: AGE DISTRIBUTION (in years)

Age Group	No. of Patients
0 – 20	1
21 – 30	64
31 – 40	34
41 – 50	1
Total	100

64% of the study population belongs to 21 to 30 years of age. 35 (35%) patients were more than 30 years of age.

TABLE 2: RISK FACTORS

S.No	Risk factors	No of patients	Percentage out of 100 pts
1	PID	20	20%
2	Prior H/O abortions	18	18%
3	Sterilization	15	15%
4	Ovulation induction	10	10%
5	IUCD	5	5%
6	ART	3	3%
7	Tubal recanalization	1	1%
8	Other pelvic surgeries	1	1%
9	Emergency pills	1	1%
10	Combined OCP	1	1%
11	POP	1	1%
12	No risk factors	25	25%

Tubal pathology was the most common risk factor followed by abortion and Tubal surgeries. In some cases more than one risk factor was seen. No risk factors were identified in 25 (25%) cases. One or more risk factors were identified in 75 (75%) cases.

TABLE 3: PRESENTING SYMPTOMS CLINICAL SYMPTOMS

S.NO.	CLINICAL SYMPTOMS	No. Of Patients	Percentage out of 100
1	Amenorrhoea, abdominal pain	71	71%
2	Abdominal pain, bleeding p/v	46	46%
3	Amenorrhoea, bleeding p/v	38	38%
	Amenorrhoea, abdominal pain,		
4	Amenorrhoea, abdominal pain, bleeding p/v	35	35%
5	Gastro intestinal symptoms	8	8%
6	Breathlessness	1	1%

Classic triad of ectopic pregnancy was seen only in 35 cases. Gastrointestinal symptoms were reported in some cases.

TABLE 4: OTHER PER OPERATIVE FINDINGS

Other Per Operative findings	No. of Patients
E/o Recanalisation	1
Active Bleeding	54
Adhesions	26
Cystic Ovaries	7
Haemorrhagic Rt Ovary	1
Uterine anomalies	3 (2-bicornuate, 1-arcuate)
Fimbrial cyst	2 (opposite side)
B/L hydrosalpinx	5
Haematosalpinx	3
Ovarian Cyst	3 (1-complex, 1 – hemorrhagic, 1-simple)
Nil	8

Other Per operative findings during laparotomy were fimbrial cyst in 2 patients, uterine anomalies in 3 patients, ovarian pathology in 11 patients, haematosalpinx in 3 patient and hydrosalpinx in 5 patient. Adhesions were found in 26 patients.

TABLE 5: SITE OF THE ECTOPIC PREGNANCY

Site	No of patients	percentage
ampulla	53	53
cornua	9	9
fimbria	23	23
isthmus	15	15
Total	100	100

Most common site was ampulla followed by fimbria and isthmus.

TABLE 6: ECTOPIC PREGNANCY CASES ACCORDING TO TUBAL STATUS

Status	No. of cases
Ruptured	77
Un -ruptured	14
Tubal Abortion	6
Chronic ruptured	3
Total	100

The distribution of ectopic pregnancy cases according to tubal status was recorded. Most of the patients were presented with ruptured tubal pregnancy which was 77(77%) cases and only 14(14%) cases were found un-ruptured. However, 6(6%) cases were diagnosed as to be tubal abortion and 3(3%) cases were diagnosed as to be chronic ruptured.

TABLE 7: MANAGEMENT

Management	No of patients	Percentage
Rt total salphingectomy	30	30
Lt total salphingectomy	24	24

RSO	7	7
LSO	9	9
RSO + Lt salphingectomy	9	9
B/L total salphingectomy	13	13
Medical management,		
MTX - multidose	8	8
Total	100	100

Medical management was done in 8 patients. Multi dose methotrexate regimen was used in all 8 patients. Unilateral total salphingectomy was done in 54 patients. B/L total salphingectomy was done in 13 patients. Unilateral salphingo oophorectomy was done in 16 patients.

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. In a study conducted by Rashmi et. al the incidence was 1:399 pregnancies. In a study conducted by Porwal Sanjay et al, the incidence was found to be 2.46 per 1000 deliveries, in our study incidence was higher than others due to higher rate of rural referrals.

Majority of the patients (64%) 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. 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.

In our study multigravida (70%) 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. In Laxmi karki study 61% were multiparous women.

Majority (57%) of the patients presented with 5 to 8 weeks of amenorrhoea representing the time period required for the growing ectopic gestation to distend the tube and cause symptoms. These results are consistent with those from Tang BD et.al and Panti A et.al.

Urine pregnancy test was positive in 91 patients (91%). Negative in 3 patients (3%). Weakly positive in 6 patients (6%).

Tubal pathology was the most common risk factor followed by abortions and tubal surgeries. In some cases more than one risk factor was seen. No risk factors were identified in 25 (25%) cases. One or more risk factors were identified in 75 (75%) cases. Similar risk factors were noted in various other studies. 1 patient had H/O emergency pills intake. The significance of this risk factor needs further studies. 10 patients gave history of ovulation induction. Advancement in infertility treatment was associated with significant risk of ectopic pregnancy. In our study 15 (15%) cases were post sterilisation ectopic pregnancies. Among the sterilisation methods, concurrent and puerperal sterilisation were found to be associated with higher number of ectopic pregnancies. Ectopic pregnancies most commonly occurred 3 to 10 years after the sterilisation surgery.

The most common presenting symptom was abdominal pain which was found in 95% of patients, followed by amenorrhoea in 75% of the patients. **The classic triad was present only in 35% of cases.** In Porwal Sanjay et al study, 90% reported amenorrhoea and 87.5% reported abdominal pain. In some cases gastrointestinal and vaso vagal symptoms are the presenting complaints.

The most common examination findings were tachycardia (36%) and hypotension (16%).

Sr. beta hCG was not done in 88 (88%) patients. Sr. beta HCG

was done in 12 (12%) patients with doubtful diagnosis. Among them 9 patients (9%) had value of < 5,000 IU/L and 3 (3%) patients had >5,000 IU/L.

In per vaginal examination forniceal tenderness (59%) was the most common finding. Cervical excitation test was positive in 75%. Culdocentesis was done only in 5 patients and they all were positive. Urine pregnancy test and ultrasound examination were done in all patients. Serum beta hCG was sent only in haemodynamically stable patients with unruptured ectopic pregnancy to decide for medical management and in doubtful cases.

In ultrasound examination empty uterus, adnexal mass and free fluid were strongly suggestive of ectopic pregnancy. Treatment delay for more than 2 hrs was present in 27 (27%) 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. Time delay was found to be associated with more morbidity.

Other per operative findings during laparotomy were fimbrial cyst in 2 patients, uterine anomalies in 3 patients, ovarian pathology in 11 patients, hydrosalpinx in 5 patient. This result was consistent with Rashmi et.al study.

Ampulla was the most common site of the ectopic pregnancy found in 53% of the patients. This result was similar to study conducted by Vanitha N Sivalingam et al.

Medical management criteria was applicable in 8 patients. Multi dose methotrexate regimen was used in all 8 patients. In surgically managed group all 92 patients underwent laparotomy. During laparotomy 80 (80%) cases were found to be ruptured including three chronic rupture. In developing countries still majority of cases present late with rupture. This was evidenced by many studies.

Total salphingectomy and salphingo oophorectomy 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.

CONCLUSIONS

Ectopic pregnancy is famous for its diversity of clinical presentations and atypical presentations. Strong clinical suspicion is required for its early diagnosis. Overall, it can be said that if identification and prevention of the known risk factors and screening of the high-risk cases, is done then it is likely that incidence of the ectopic pregnancy may decrease. It is also of utmost importance that a high index of suspicion is present, which can help in making an early diagnosis and timely intervention, and hence help to improve the prognosis of patients in terms of fertility, morbidity and mortality. However, more prospective studies are required to compare different modalities of treatment of ectopic pregnancy in our scenario.

REFERENCES:

1. 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.
2. Rashmi A Gaddagi, AP Chandrashekhar. A Clinical Study of Ectopic Pregnancy. JCDR 2012;6:867-869
3. Gupta R, Porwal S, Swarnkar M, Sharma N, Maheshwari P. Incidence, trends and risk factors for Ectopic Pregnancies in a tertiary care hospital of Rajasthan. JPBS 2012;16 (07):1-3
4. Samiya Mufti. Shagufta Rather, Samina Mufti, Reyaz A Rangrez, Wasiqa, Khalida ECTOPIC PREGNANCY: AN ANALYSIS OF 114 CASES JK Practitioner 2012;17(4):20-23
5. Menon S, Sammel MD, Vichnin M, Barnhart KT. Risk factors for ectopic pregnancy: a comparison between adult and adolescent women. J Paediatr Adolesc Gynecol 2007;20: 181-5.

6. Sindos M, Togia A, Sergentanis TN, Kabagiannis A, Malamas F, Farfaras A, et al. Ruptured ectopic pregnancy: risk factors for a life-threatening condition. *Arch Gynecol Obstet* 2009;279:621-3.
7. R. C (Karki) L, Pradhan B, Duwa S. Annual Analysis of Ectopic Pregnancy in Tertiary Care Hospital. *PMJN* 2011;11 :5-8
8. Sivalingam VN, Duncan WC, Kirk E, Shephard LA, Horne AW. Diagnosis and management of ectopic pregnancy. *Journal of Family Planning and Reproductive Health Care*. 2011 Oct 1;37(4):231-40.
9. 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.
10. Aboufoutouh, I. I.; Youssef, M. A.; Zakaria, A. E.; Mady, A. A. & Khattab, S. M. (2011). Cervical twin ectopic pregnancy after In Vitro fertilization-Embryo transfer (IVFET): case report. *Gynecol Endocrinol*, (April 2011),