International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Baria DD et al. Int J Reprod Contracept Obstet Gynecol. 2013 Dec;2(4):621-625
www.ijrcog.org

pISSN 2320-1770 | eISSN 2320-1789

DOI: 10.5455/2320-1770.ijrcog20131226

Research Article

Analysis of ectopic pregnancy at a tertiary care hospital: one year study

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Received: 17 October 2013
Accepted: 27 October 2013

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ABSTRACT

Background: Ectopic gestation is the leading cause of maternal mortality and morbidity in first trimester and is a major cause of reduced child bearing potential. The aims of our study were to understand the clinical profile, risk factors, sites and management modalities of ectopic pregnancy at tertiary care hospital.
Methods: This is a retrospective study carried out for one year at the department of Obstetrics and Gynaecology of our institute. Data of the women admitted for management of ectopic pregnancy during January to December, 2010 was collected and analysed.
Results: The proportion of ectopic pregnancy was 0.7 % at our institute. Majority of women 45(83.2%) were between the age group of 21-30 years. Pelvic inflammatory disease (PID) contributed to ectopic pregnancy in 16(29.6%) women. The most common symptom was lower abdominal pain, in 50(92.6%) women. Marked pallor was present in 25(46.3%) women and 38(70.4%) women had cervical motion tenderness. Out of all women, 10(18.5%), 18(33.3%) and 26(48.1%) women were managed successfully with methotrexate, laparoscopy and laparotomy respectively. The success rate was 83.3%, 90% and 100% with methotrexate, laparoscopy and laparotomy respectively. Blood and blood products were given to 25(46.3%) women.
Conclusion: Ectopic pregnancy is a growing problem of reproductive age group. Women should be encouraged regarding early reporting of missed periods and made aware of complications of ectopic pregnancy and necessity of seeking urgent medical help as early as possible so that early diagnosis and prompt conservative surgical or medical management of ectopic pregnancy can be done.

Keywords: Ectopic pregnancy, Management of ectopic pregnancy, Pelvic inflammatory disease

INTRODUCTION

The term "Ectopic Pregnancy" is applied to pregnancy where fertilized ovum is implanted at the site other than the normal position of uterine cavity.[1] Ectopic gestation is the leading cause of maternal mortality and morbidity in first trimester and is a major cause of reduced child bearing potential. Approximately 1-2% of pregnancies in the United States are ectopic; however, these pregnancies account for 3-4% of pregnancy-related deaths.[2] Some associated risk factors are considered to be partially responsible for escalation of ectopic pregnancy, like dramatic rise in STIs and the popularity of intrauterine devices (IUD) leading to PID and iatrogenic induced complications which result from increase in use of assisted reproductive technologies (ART).[3,4] High resolution ultrasonography (USG) and serum beta subunit of human chorionic gonadotrophin (β-HCG) level are helpful for early detection of ectopic pregnancy in unruptured state as the doubling of serum β-HCG which normally occur in approximately 48 hours is not seen in cases of ectopic pregnancy. Early diagnosis allows options for treatment by minimally invasive surgery or medical treatment under care of skilled personnel. This will significantly enhance both maternal survival and

conservation of reproductive capacity. Laparotomy is usually reserved for women coming with significant intra-peritoneal haemorrhage and shock. Maternal mortality and morbidity is greatly reduced due to recent advances in surgical techniques, anaesthesia, availability of blood and broad spectrum antibiotics.

METHODS

Our institute drains patients from urban, semi-urban as well as nearby rural areas. This is a retrospective study of 54 women diagnosed as ectopic pregnancies from January 2010 to December 2010 who were treated at our tertiary healthcare centre. After due permissions from the authority, case papers of all the women who were admitted for the management of ectopic pregnancy were studied in detail as per proforma. History, clinical features, vital data and general, abdominal and per vaginal findings of the women was noted. Past history of any pelvic pathology, pelvic surgery or treatment taken for infertility is also taken into account. Analysis was done regarding their diagnosis and management.

RESULTS

In our study, a total of 7181 antenatal women presented to our hospital during the study period. Out of these, 54 women were diagnosed as ectopic pregnancy. Thus the proportion of ectopic pregnancy was 0.7 % at our institute.

Table 1 shows clinical profile and risk factors of women having ectopic pregnancy. Majority of 45(83.2%) women were between the age group of 21-30 years and 32(59.2%) women were nulliparous.

The most common presenting symptom was lower abdominal pain, in 50(92.6%) women. On examination, 25(46.3%) women presented with marked pallor and shock. These women were given blood and blood products. Most frequently associated factor in our study was history of PID in 16(29.6%) women.

The diagnosis of ectopic pregnancy was suspected from clinical features confirmed on the basis of urinary pregnancy test (UPT), ultrasonography and serumβ-HCG levels. Ultrasonography was conclusive in 52(96%) women and laparoscopy was required in 2(3.7%) women for diagnosis.

Table 2 shows management of women having ectopic pregnancy. Medical management with injection Methotrexate was successful in 10(18.5%) women. Laparoscopy was done in 20(37%) women, out of them, 2(3.7%) required laparotomy as there were adhesions in 1(1.8%) and in 1(1.8%) laparotomy was performed because of intramural pregnancy. Laparotomy was performed in 26(48.1%) women, out of these, in each of 2(3.7%) women it was done either after failed medical or laparoscopic management. No maternal mortality was reported in our study.

Table 1: Clinical profile and risk factors of ectopic pregnancy.

Clinical Profile (N=54)	No. of cases (%)
Age in years	
16-20	3(5.5)
21-25	26(48.1)
26-30	19(35.1)
31-35	4(7.4)
36-40	2(3.7)
Parity	
0	32(59.2)
1	12(22.2)
2	8(14.8)
3	1(1.8)
4+	1(1.8)
Symptoms	
Lower abdominal pain	50 (92.6)
Amenorrhoea	45 (83.3)
Bleeding per vaginum	24 (44.4)
Syncope	8 (14.8)
Nausea and vomiting	4 (7.4)
Signs	
Abdominal Tenderness	47 (87.0)
Tender cervical movement	38 (70.4)
Mass in fornix	25 (46.3)
Marked pallor	25 (46.3)
Risk Factors	
PID	16(30)
Abortion	13(24)
Infertility	10(18.5)
Pelvic surgery	4(7.4)
IUD	3(5.5)
Ectopic pregnancy	2(3.7)
Uterine anomaly	2(3.7)
Unexplained	18(33.3)

Table 2: Successful management of ectopic pregnancy.

Management	No. of cases (%) N=54	Procedure	
Medical treatment	10 (18.5)	Injection Methotrexate	
Laparoscopy alone	18 (33.3)	Salpingectomy Partial salpingectomy Salpingotomy	12 5 1
Laparotomy 1. Direct laparotomy	22 (40.7)	Salpingectomy Partial salpingectomy Excision of rudimentary horn	15 5 2
2. Laparoscopy to Laparotomy	2 (3.7)	Salpingectomy Removal of myometrial pregnancy	1 1
3. Methotrexate to Laparotomy	2 (3.7)	Salpingectomy Partial salpingectomy	1 1

In our study, the site of ectopic pregnancy was ampulla, isthmus, infundibulum and interstitial in 32(59.2%), 6(11.1%), 5(9.2%) and 1(1.8%) respectively. Those women who were managed by medical management, the site of ectopic pregnancy could not be identified. Blood and blood products were given to 25(46.3%) women who were presented with marked pallor and shock.

DISCUSSION

The proportion of ectopic pregnancy was 0.7% at our institute. It is commonly found in young age group. In our study, 45(83.2%) women were between the age group of 21-30 years. Majority of women 32(59.2%) were nulliparous. As per the study of Priti et al[5], 75% of the women were between the age group of 21-30 years and 36.7% women were nulliparous.

In our study, the risk factors mainly associated with women with ectopic pregnancy were history of PID, in 16(30%) women, abortion in 13(24%) women, and infertility in 10(18.5%) women. PID being the most common aetiological factor and by far the most preventable, efforts for early diagnosis and prompt treatment must be developed in OPD cases itself. The Gharoro et al study[6] in fact shows that PID was associated with 41% and previous abortion was associated with 63% of women with ectopic pregnancy.

In our study, two women (3.7%) had previous history of ectopic pregnancy. Out of which one woman had undergone partial salpingectomy of right tube and later had ruptured ectopic pregnancy of the isthmic part of the same tube. The other woman had been operated for left sided ectopic pregnancy and later operated for right ruptured ampullary ectopic pregnancy in form of right salpingectomy. In a study by Bennetot et al[7], the incidence of recurrence of ectopic pregnancy is 19% irrespective of treatment given for original ectopic pregnancy. The presenting complains of women were most commonly lower abdominal pain found in 50(92.6%) women and amenorrhoea found in 45(83.3%) women. In the study of Gharoro et al[6] lower abdominal pain was present in 83.6% and amenorrhoea in 77.6% women and in the study of Majhi et al[8] lower abdominal pain was present in 86.1% and amenorrhoea in 76.1% women. Fainting was experienced by 8(14.8%) women, which was due to significant intraperitoneal haemorrhage. Abdominal tenderness was present in 47(87%) women and cervical motion tenderness was present in 38(70.4%) women which are comparable to Majhiet al[8] study in cervical tenderness was present in 82.2% women.

Also a high degree of clinical suspicion of ectopic with any of the risk factors must be considered ectopic unless proved otherwise, and must be monitored with serial β-HCG estimation and ultrasonography until localization of pregnancy is confirmed.

In the present study, medical management was done in women having unruptured ectopic pregnancy and mass of ectopic gestation <3.5 cm. In our study, success rate of medical treatment was 83.3% as laparotomy was required in two women out of 12 women who were managed by medical treatment. Saraj et al[9] has reported 94.7% success rate with methotrexate.

Of those women who were treated either by laparoscopy or by laparotomy, salpingectomy is performed in 29(65.9%), partial salpingectomy in 11(25%) and salpingotomy in 1(2.3%). Mufti et al[10] has reported salpingectomy in 65.8% women and partial salpingectomy in 8.7% women. In women with ruptured ectopic pregnancy, often the tube was shattered and bleeding or the ectopic mass was large. In such women, conservative surgery was not always possible and radical surgery was performed. According to Bansgaard et al[11] conservative surgery is superior to radical surgery in

preserving fertility. Conservative surgery is not followed by an increased risk of repeat ectopic pregnancy, but the risk of persistent ectopic pregnancy should be taken into account when deciding on operative procedure.

In our study, laparoscopy was performed in 20(37%) women out of which two women required laparotomy. Hence, success rate of laparoscopy in our study was 90%. Saraj et al[9] has reported 91.4% success rate with laparoscopy. Out of two women who required laparotomy, in one woman, a gestational sac was deeply buried into the myometrium at the site of rupture suggesting myometrial pregnancy. Since there was excessive bleeding, laparotomy was performed and reconstruction of uterine musculature done in two layer after removing the gestational sac. According to Tulandi et al[12] the incidence of interstitial ectopic pregnancy is 1-3% of all ectopic pregnancies.

Other woman had chronic ectopic and laparoscopy was performed initially but the sigmoid colon was densely adherent to the ectopic mass, so laparotomy was performed for adhesiolysis and removal of ectopic mass by salpingectomy.

Laparoscopic surgery has its own advantages over laparotomy of being minimally invasive, early post-operative recovery and early ambulation of patient. Ruptured ectopic does not necessarily warrant a laparotomy and laparoscopy can be performed if bleeding is less and patient is haemodynamically stable.[13]

In our study, successful management of ectopic pregnancy by laparotomy was higher in 26(48.1%) women compared to laparoscopies that were successful in 18(27.7%) women. This was due to the fact that before reaching to our tertiary care hospital, most of the women seek medical help at primary, secondary or private health care centres or they report late. This leads to loss of precious time and women were brought with ruptured ectopic pregnancy with stage II or stage III shock with large haemoperitoneum requiring emergency laparotomy and transfusion of blood and blood products.[14]

CONCLUSION

Ectopic pregnancy is a growing problem of the reproductive age group. Prevention of PID and management of STIs can help to decrease the incidence of ectopic pregnancy. Women should be encouraged regarding early reporting of missed periods and made aware of complications of ectopic pregnancy and necessity of seeking urgent medical help as early as possible so that early diagnosis and prompt conservative surgical or medical management of ectopic pregnancy can be done. This will not only help in reducing maternal mortality and morbidity rates but also go a long way in preservation of future fertility.

ACKNOWLEDGEMENTS

The authors would like to thank Dr. S. T. Malhan, the superintendent of Sheth V. S. General Hospital, Dr. Pankaj R. Patel, the dean of Smt. N.H.L. Municipal Medical College to allow us to publish this paper. We would also like to thank Dr. Dharmesh B. Baria, ex-resident in Obstetrics & Gynaecology Department of Smt. N.H.L. Municipal Medical College for his constant support.

Funding: None
Conflict of interest: None
Ethical approval: The study was approved by the Institutional Ethics Committee

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DOI: 10.5455/2320-1770.ijrcog20131226
Cite this article as: Baria DD, Thaker RV, Patel MS, Shah SR, Shah PT, Jani SK. Analysis of ectopic pregnancy at a tertiary care hospital: one year study. Int J Reprod Contracept Obstet Gynecol 2013;2:621-5.