ORIGINAL ARTICLE

A CLINICAL STUDY OF ECTOPIC PREGNANCY

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Background: The frequency of ectopic pregnancy is increasing throughout the globe and it is the most life threatening emergency in first trimester of pregnancy. Objective of this study was to determine the frequency, risk factors, clinical presentation and management of ectopic pregnancy. **Methods:** This prospective descriptive study was conducted in Gynaecology and Obstetrical Unit-II of Liaquat University of Medical and Health Sciences Hospital Hyderabad from 1st May 2009 to 30th April 2012. All women diagnosed with ectopic pregnancy were included in the study. A predesigned *pro forma* was used to record the details about demographic features, pre-existing risk factors, clinical features at presentation and management of ectopic pregnancy. Data was analysed using SPSS-11. **Results:** Total numbers of admission during study period were 9600 with 60 cases of ectopic pregnancy, thus representing the frequency of 0.6% (1 in 160). Majority of women 43 (72%) were of 20–30 year age, multigravida 31 (52%) were the most sufferers. Pelvic inflammatory disease 27 (45%), previous abortion 20 (33%), previous surgery 12 (20%) were seen as common risk factors; however no risk factor was identified in 21 (35%) women. Typical history of amenorrhea and abdominal pain was found in 46 (77%) women, 23 (38%) were in a state of shock. Laparotomy was performed in 53 (88%) women. Three (5%) women were treated successfully with methotrexate. Laparoscopic surgery was done in 2 patients and 2 patients were required both Laparoscopy proceeded by laparotomy. No maternal death related to ectopic pregnancy was reported in our study. **Conclusion:** The early diagnosis of an ectopic pregnancy is one of the greatest challenges for obstetricians. The importance of early diagnosis lies in the fact that the lady can be offered a conservative line of management which can definitely have beneficial on her reproductive carrier.

Keywords: Ectopic pregnancy, Pelvic inflammatory disease, Abortion, laparotomy, methotrexate

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INTRODUCTION

Ectopic pregnancy is a tragedy of reproduction. It is defined as a pregnancy that is implanted outside the uterine cavity, i.e., at a site that by nature is not designed anatomically and physiologically to accept the conception or to permit its growth and development.[1]

There are many predisposing factors leading to ectopic pregnancy. Incidence of ectopic pregnancy is influenced by multiple life time sexual partners, induced abortions, pelvic inflammatory disease, miscarriages, and pelvic surgery.[2] Ectopic pregnancy is assuming greater importance because of its increasing incidence and its impact on women's fertility.[3,4] Acute danger of ectopic pregnancy is tubal rupture with massive intra-abdominal haemorrhage and this is a leading cause of first trimester morbidity and mortality.[5]

Worldwide around 10–15% of maternal deaths in 1st trimester are contributed by ectopic pregnancy.[6] In spite of the rising incidence the related morbidity and mortality is declining in the developed countries due to well recognized health care delivery system and availability of sophisticated techniques for the early recognition and treatment of ectopic pregnancy.[7] The availability of medical therapy, laparoscopic technique[8] and more recently uterine artery ligation[9] have appeared promising in terms of better conservation of fertility, shorter hospital stay and related surgical morbidity[7]

Centres for Disease Control and Prevention (CDC) reports that the incidence of ectopic pregnancies is 1 in 70 pregnancies while in Pakistan it varies from 1:112 to 1:130 pregnancies[10] but the real figures could be higher due to under diagnosis and poor record keeping. Poverty, quackery, lack of health awareness and poor coordination between the health care providers lead to delayed recognition and management. As a result the patients are frequently seen in moribund state and usually managed by laparotomy with significant impairment of fertility.

The current study is aimed to evaluate the clinical pattern, risk factors and management of ectopic pregnancy at a tertiary care centre with a view to suggesting action to improve the prognosis.

MATERIAL AND METHODS

This descriptive study was conducted in the department of obstetrics and gynaecology unit-II of Liaquat University of Medical and Health Sciences Hospital, Hyderabad from 1st May 2009 to 30th April 2012. Sixty patients with confirmed diagnosis of ectopic pregnancy were included in our study. At admission, detailed history was taken from patients

i.e., age, parity, last menstrual period, amenorrhea, lower abdominal pain, vaginal spotting and bleeding (Triad of symptoms) and past history to rule out risk factors i.e., previous history of ectopic pregnancy, vaginal discharge, fever, contraception especially intrauterine contraceptive device, and ovulation induction. After detailed history patients were thoroughly examined including abdomino-pelvic examination for tenderness and cervical excitation. Diagnosis was primarily made clinically and later on supplemented by urine pregnancy test, sonological finding (absence of an intrauterine gestational sac, presence of an adenexal mass and presence of fluid in *cul-de-sac*), Beta human chronic gonadotropin estimation, surgical findings and histopathological report. Majority of patients in our study had presented in emergency so after confirmation of diagnosis baseline investigation and blood group for cross match were sent. After consent, laparatomy was done. In doubtful cases laparoscopy preceded laparotomy. All details were entered on a pre-designed *pro forma* and analysed using SPSS-11.

RESULTS

During the study period there were 9600 admissions with 60 cases of ectopic pregnancy, i.e., 1:160 (0.6%). Data with respect to age and parity is given in table-1. Various risk factors were studied noted in table-2. Majority of patients presented with a combination of symptoms as shown in table-3. A total of 53 (88.3%) women underwent emergency laprotomy out of which 23 were haemodynamically unstable. One laprotomy done due to abdominal pregnancy with double uterus and one patient had heterotrophic pregnancy therefore laprotomy was done for ruptured left sided tubal ectopic while few days ago she had dilatation and curettage for missed abortion followed by ultrasound revealed 12 week un-ruptured sac in adnexal.

Laparoscopic surgery was possible in 2 (3.3%), 3 women were treated successfully with methotrexate and 2 (3.3%) women require both laparoscopy followed by laparotomy (one due to haemo-peritoneum and other due to large adnexal mass). None of patients in our study fulfilled the criteria for expectant management. No maternal death related to ectopic pregnancy was recorded during the study period

Table-1: Demographic features of patients (n=60)

Characteristics	Number of Patients	Percentage
Age (Years)		
20–25	25	41.6
26–30	18	30
31–35	13	21.6
36–40	4	6.66
Parity		
Primipara	16	26.66
Multipara	31	51.66
Grandmultipara	13	21.66

Table-2: Risk factors

Risk Factors	Number	Percentage
Pelvic Inflammatory Disease	27	45
No Risk Factors Identified	21	35
Previous Abortions /D&C	20	33
Previous Surgery	12	20
Infertility	4	6.66
Contraception	2	3.33
Previous Ectopic	1	1.66
Endometriosis	1	1.66
Congenital Anamoly	1	1.66

Note: Most of the women having more than one risk factor

Table-3: Clinical features of patients

Features	Number	Percentage
Abdominal pain	53	88.33
Amenorrhae	46	76.66
Shock	23	38.33
Bleeding Per Vagina	15	25
Adenexal Mass	9	15

Note: Most of patients had combined features.

Table-4: Mode of treatment (n=60)

Treatment	Number	Percentage
Lapratomy	53	88.33
Methotrexate	3	5
Laproscopy	2	3.33
Laproscopy+Lapratomy	2	3.33

DISCUSSION

Frequency of ectopic pregnancy in this study was 0.6% which is comparable to other studies done in Saudi Arabia [11,12] and India[13] but is low as compared to other studies in Pakistan[10,14,15] and in Egypt[16.] In the present study maximum number of cases (71.6%) occurred in age group of 21–30 years which is quite consistent with results of studies done in India[13,17] as well as Nigeria[18] and Egypt[16]. It is thus clear that lot of our young women in their prime of reproductive years are subjected to a lot of emotional and psychological problems of failure of reproduction associated with ectopic pregnancy in an environment where a lot of premium is placed on child bearing.

Multiparous women were found more prone to ectopic pregnancy that is 31 (51.66%) which is close to other studies.[1,12] Majhi *et al* showed increased risk of ectopic pregnancy in primigravida which is conflicting with the results of our study.[13]

Pelvic inflammatory disease, history of previous abortion, and abdominal surgeries including caesarean section are commonly identified risk factors for ectopic pregnancy. PID was the commonest risk factor identified in 27(45%) women. This frequency is almost consistent with previously reported figures in literature.[19–21] The trend of early marriages in our society coupled with lack of knowledge regarding sexual health predisposes the young women to sexually transmitted infections (STIs). Moreover, there is very common practice of vaginal insertion of home-made herbal medicines

under extreme unhygienic conditions for the cure of sexual infections, thus the women often become the victim of chronic pelvic inflammatory disease. In addition, they are highly sexually active and when they contract STIs they are unlikely to seek proper medical care and resort to buying of drugs from patent medical stores with resultant effect of poor treatment leading to tubal damage. Rose[2] reported a 9-fold increased risk of ectopic pregnancy in patients with PID and emphasized the importance of usage of condoms. The alarming risk of PID need a preventive strategy with promotion of health education, in particular the safe sexual practice in our community. Emphasis should be towards treatment of both partners for complete cure.

History of previous abortion was present in 20 (33.3%) women. Previous surgery was found to be associated with the risk of ectopic pregnancy in 12 (20%) patients that is comparable with a study by Aziz in Saudi Arabia.[12] Mollison *et al* in their study examined the relationship between prior mode of delivery and subsequent pregnancy. They found that women who delivered by caesarean section were less likely to become pregnant again but were more likely to have ectopic pregnancy after getting pregnant.[22] The underlying mechanism for this association is unclear and may relate to increased risk of pelvic infection and adhesions after caesarean section. However the most important fact which needs attention is that in 1/3rd of cases there were no recognizable risk factors. This may emphasise the fact that to diagnose ectopic pregnancy, we must have ectopic minds. The presence of known risk factors shall increase the suspicions but any sexually active women presenting with abdominal pain and vaginal bleeding after an interval of amenorrhea has an ectopic pregnancy until proved otherwise.

Laparotomy was the main surgical approach in 53 patients owing to the acute presentation with haemoperitoneum. Laparoscopic surgery was possible in 02 women and only 03 women fulfilled the criteria for medical therapy. Laparoscopic and medical therapy have now emerged as widely used therapeutic modalities with great success in terms of reduced morbidity, shorter hospital stay, and conservation of fertility.[7] However the choice depends upon early identification of ectopic pregnancy and condition of patient.[23]

Since most of our patients presented late in a critical state they could not be offered these modern management options. Establishment units dealing with of early pregnancies, as is practiced in industrialized nations, can help in early diagnosis and management with reduced morbidity and better conservation of fertility.

Thirteen maternal deaths resulted from ectopic pregnancy in the UK during the period of 1997–1999.[24] In our study there was no maternal death which is comparable with other local studies in Pakistan[10,14] as well as in India.[13,17] It may be because of the fact that in our country many maternal mortalities go unnoticed because of illiteracy or lack of medical facilities. Another reason may be the prompt surgical intervention in our cases.

CONCLUSION

Pelvic inflammatory disease and history of previous abortion and abdomino-pelvic surgery were the main risk factors for ectopic pregnancy. Risk factors may not always be present. Due to delay in making diagnosis at early stage and majority presented at late stage so open surgery was required in most of cases. This emphasizes the importance of a through clinical evaluation and appropriate investigations for patients with high suspicious so that our poor patients can be benefited by the use of recent therapeutic modalities with avoidance of open surgery and better fertility conservation. Prevention of pelvic inflammatory disease and establishment of early pregnancy units so that early diagnosis can be made prior to tubal rupture with decreased morbidity and mortality.

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