ORIGINAL ARTICLE

Ectopic pregnancy: Interventional Outcome at Tertiary Hospital

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Abstract:

The aim of this study is to determine the incidence and to evaluate and analyse the clinical presentation, risk factor and treatment of ectopic pregnancy in Holy Family Red Crescent Medical College Hospital, Dhaka. A prospective study was conducted in Department of Obstetrics and Gynaecology from August 2016 to December 2017. The study subjects included 50 women diagnosed with ectopic pregnancy (EP) to receive the treatment of medical and surgical procedure. In this study group the incidence was 4.7% among total gynecological admitted patient (2017) and the risk were within the age group 27-35 years. Majority of patients were having triad of symptom such as abdominal pain, secondary amenorrhoea and vaginal bleeding. Past H/O abortion and abdomino-pelvic surgery were 66%. The commonest modality of treatment was Laparotomy (41 of 50, 86%), others were conservative with Inj. Methotrexate, failed conservative followed by Laparotomy (4%) and Laparoscopy (2%). EP is a common and life threatening entity. Women with infertility and past abdomino-pelvic surgery, MR, abortion are particularly at risk. Early diagnosis and intervention can reduce the mortality and morbidity of women having EP.

Introduction:

Ectopic pregnancy (EP) is a condition of immense gynecological importance, particularly in the developing world, because of high morbidity and mortality associated with it. The incidence of EP varies with the population but it has been accounted for 1-2% of all reported pregnancies[1,2,3,4].

It is a complication of the first trimester of pregnancy that carries major morbidity and mortality accounting for up to 6% of pregnancy associated mortality even today[5].

Improved diagnostic and therapeutic methods have made maternal death from EP a rare global phenomenon (0.05%). Yet the quality of diagnosis and treatment of this condition is not uniform[6,7].

The etiology of EP is not well understood[8]. However multiple risk factors have been associated with EP. Pelvic inflammatory disease (PID), puerperal sepsis, post abortal sepsis, appendicitis and the use of intrauterine devices (IUCD) have been identified as sources of pelvic infection and major risk factor[9,10,11].

Other etiological risk factors are tubal or pelvic surgeries, endometrial exposure of diethyl stillbestrol in utero, chromosomally abnormal embryo, use of progesterone only pills, conception following induction of ovulation and

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in vitro fertilization (IVF) and embryo transfer (ART), history of previous EP and history of infertility and age above 35 years[9,12,13]. However EP can also occur without any obvious risk factor[7,14,15].

Clinical manifestation is connected with localization of EP. Fallopian tube is the most common area of EP implantation represented 97% of all EP.

The clinical manifestations of EP complicate the diagnosis because of their varieties broad spectrum that run from asymptomatic until acute abdomen and hemodynamic shock.

Transvaginal Ultrasonography (TVS) is the primary diagnostic tool for clinically stable women with suspected EP[16]. Urine pregnancy test are positive is only 50% of cases. In intrauterine pregnancy the human chorionic gonadotropin (B-HCG) generally doubles within 48 hours but in EP normally have a slower rate of increase.

Combination of B-HCG levels and TVS has a sensitivity of 97% and specificity of 95%.

The treatment of EP includes medical and surgical methods. Both are effective, but the selection depends on clinical situation, localization of EP and diagnostic tool.

We would like to determine that the incidence risk factor and management of patients with the best treatment options depending of EP situation adopted over a period of time in HFRCMCH.

Materials and method:

This is a prospective study performed in Holy Family Red Crescent Medical College Hospital from August 2016 to December 2017. The case/patient was 50 women in their first trimester of pregnancy presenting to the hospital with a diagnosis of EP in order to receive the treatments of medical or surgical procedure.

The basic recorded information included demographic characteristic, the symptom of duration of amenorrhea, vaginal bleeding and pain, obstetrics (gravidity and para, history of abortion and past EP) contraceptive methods and infectious history (H/O PID), previous surgery (gynecological and abdominal) were recorded in a proforma.

Diagnosis was made by TVS, serum B-HCG and urine for pregnancy test. Plan of management was done by laparotomy, laparoscopy or conservatively by injection methotrexate depending on the general condition of the patient, serum B-HCG and TVS. Laparotomy findings were included in the study. From the primary data obtained tables were made and interpreted.

Table I: Ectopic pregnancy and Demographic characteristics

	Number	**Percentage (%)**
Age(in years)		
<26	12	24
27-35	34	68
36-40	4	8
>40		
Parity		
0	23	46
1	18	36
2	5	10
3	3	6
4	1	2
5 and above		
Occupatio n		
Housewife	33	66
Service Holder	16	32
Student	1	2

Table II: Clinical Presentation of patients with Ectopic pregnancy

Presentations	Number	Total (n=50) Percentage
Abdominal pain	43	86
Amenorrhea	36	72
Vaginal bleeding	23	46
Faint ing attack/dizziness	18	36
Shock	1	2
Shoulder tip pain	Nil	Nil
Diarrhoea/Vomi ting	4	8

Table III: Risk factors found in patients with Ectopic pregnancy

Risk factors	Number	Total (n=50) Percentage
Previous abortion	13	26
History of MR	8	16
Pelvic inflammatory disease	2	4
Previous abdomino - pelvic surgery	20	40
Previous ectopic pregnancy	6	12
Emergency contraceptive pill	4	8
Intrauterine contraceptive device	Nil	Nil
Ovulation inducing drug with IUI	1	2
Ovulation inducing drug	2	4

Table IV: Duration of amenorrhea for both ruptured and unruptured ectopic pregnancy

Duration	Number	Total (n=50) Percentage
< 7 weeks	30	60
8 – 12 weeks	12	24
>12 weeks	8	16

Table V: Diagnostic Methods

Method	Number	Total (n=50) Percentage
Clinical/Abdom inal	48	96
Pregnancy Test	37	74
USG	31	62
Laparotomy/La paroscopy	9	18
Serum ß -hCG	20	40

Table VI: Treatment of Ectopic pregnancy

Treatment options	Number	Total (n=50) Percentage
Conservative with Inj. Methotrexate	6	12
Failed conservative followed by laparotomy	2	4
Laparotomy	41	82
Laparoscopy	1	2

Table VII: Operative findings

Finding	Number	Total (n=50) Percentage
Ruptured	43	86
Unruptured	6	12
Tubo -ovarian complex	6	12
Pelvic adhesion	1	2
Tubal abortion	1	2

Table VIII: Site of ectopic pregnancy

Site	Number	Total (n=44) Percentage
Right tube	21	48
Left tube	20	40
Ampulla	24	48
Isthmus	5	10
Fimbriae	nil	nil
Cornual	4	8
Tubo-ovarian	6	12
Ovarian	2	4
Heterotopic pregnancy	1	2

Results:

Table 1 depicts the demographic characteristics; the majority of patients (68%) were within the age group 27-35 years. A significant proportion (23 of 50, 46%) of these were nulliparous, while 18 of 50 (36%) were single multipara.

The clinical presentation is shown in Table 2. The commonest (43 of 50, 86%) presentation was abdominal pain, 23 of 50 (46%) had vaginal bleeding, 36 of 50 (72%) presented with amenorrhea, 18 of 50 (36%) presented with dizziness/fainting attack, 4 of 50 presented with diarrhea/vomiting and 1 of 50 (2%) presented in shock.

A notable number (20 of 50, 40%) had a previous history of abdominopelvic surgery, while 13 of 50 (26%) had past history of abortion, and 8 of 50 (16%) had previous history of MR as risk factors for ectopic gestation (Table 3). Other associated risk factors were previous ectopic pregnancy (12%), pelvic inflammatory disease (4%), use of emergency contraceptive pill (8%), previous history of taking ovulation inducing drug (4%), and previous history of taking ovulation inducing drug with IUI (2%).

The majority of the patients (36 of 50, 72%) presented with amenorrhea (Table 2), 60% of which was <7 weeks (Table 4), while 12 of 50 (24%) occurred at 8-12 weeks of gestation and 8 of 50 (16%) occurred at a gestational age of >12 weeks.

The majority (48 of 50, 96%) of the cases were diagnosed through history-taking, clinical physical and abdominal examination, while others had a positive pregnancy test (37 of 50, 74%), ultrasonography (31 of 50, 62%), serum ß-hCGlevel (20 of 50, 40%) and underwent laparotomy/laparoscopy (18%), as depicted in Table 5.

Table 6 shows that the commonest modality of treatment was laparotomy (41 of 50, 78%); others were conservative with Inj.Methotrexate (6 of 50, 18%), failed conservative followed by laparotomy (4%) and laparoscopy (2%).

As shown in Table 7, 43 of 50 (86%) of the patients had ruptured ectopic pregnancies, while six of 50 (12%) were unruptured. Other operative findings revealed tubo-ovarian complex (12%), pelvic adhesion (2%) and tubal abortion (2%).

Table 8 shows that equal number of ectopic pregnancies occurred in right(40%) and left tubes (40%), and the majority of these occurred in the ampullary (48%) followed by the isthmic (10%), and cornual (8%) regions of the fallopian tube. Other sites involved include tubo-ovarian (12%), ovarian (4%), and one of 50 (2%) case was reported as heterotopic pregnancy.

Discussion:

Ectopic Pregnancy (EP) which is the implantation of fertilized ovum outside the endometrial cavity and has an approximate incidence of 1.5-2% in all pregnancies[6], is a potentially life threatening disease.

In this study, 50 patients with EP were diagnosed in HFRCMCH. 42 cases are treated surgically by laparotomy and laparoscopy. 8 cases were managed conservatively with methotrexate (MTX). 6 cases responded with conservative

treatment and 2 cases did not respond. Emergency laparotomy was performed.

We tried to find out the risk factor of EP. Exact etiology of EP is still not known. Pathogenesis of EP remains multifactorial[2,5,6], up to half of all women with an EP have no recognized risk factor for it[2].

In our study, the average maternal age were 27-35 years which is consistent with previous study[1] literature document that EP is generally most common in women above 25 years of age[1] existing evidence suggest that it may be the cumulative effect of multiple risk factors with advancing age. Increased incidence of EP with multiparity has been reported by some studies[8] our result showed the distribution of age and parity was comparable to other study[8].

Many authors have reported as an increased risk of EP in women with previous history of pelvic infections[3,16] but in this study only 4 percent women were having pelvic infections.

But the contribution of previous history of abortion and M.R. in this study was 42 percent. Few studies have reported past spontaneous miscarriages as a predisposing risk factor for EP[8].

This association may possibly be mediated through infection or via common risk factors for pregnancy and spontaneous miscarriage[8].

Women using any types of contraceptive should have a significantly lower chance of having EP, as compared with sexually active non-contraceptive users. Some reports suggest that a hormonal imbalance could interfere with normal tubal motility leading to an increased risk of EP. This study showed 8% of women were using emergency contraceptive pill.

Randall, in 1986 reported that post coital contraception gave the 0.3 – 5% risk of having EP[7].

The contribution of chronic impairment of the reproductive functions predisposing to EP can be demonstrated by the increased chances of recurrence of EP among women who have had an EP before[1]. In our study also 6 (12%) women with EP had a past history of EP.

Among majority of women 60% EP were visible in the < 7 weeks of gestation and 96% were diagnosed clinically. A significant number of cases were having triad of symptoms such as abdominal pain, secondary amenorrhoea and vaginal bleeding. Urine for pregnancy test and ultrasonography were done in 74% and 62% cases. 40% reported the test of serum β-HCG for diagnosis. It may be due to the decrease time between admissions and emergency management.

USG and β -HCG levels are important in the early diagnosis of EP (crochet at al. 2013). Pregnancy tests were used as supported diagnostic investigation, with diagnosis confirmed by USG scan.

The treatment presented in this study included expectant management and surgical protocol.

The focus of treatment is to select a safer one more effective method to preserve reproductive potential.

Due to the fact that many EP resolve spontaneously 6 cases of asymptomatic EP had expected management after fulfilling the criteria such as[10].

1. Women clinically stable with no evidence of intraperitoneal bleeding.
2. Minimal pain.
3. β -HCG less than1500 IU.
4. No fetal cardiac activity on scan.
5. Ectopic mass < 35mm

Patents with ruptured EP could present with sign of shock, including hypotension, tachycardia and rebound tenderness and majority of patient in this study were treated as an emergency basis.

The commonest risk of EP from our finding was the ampullary region of fallopian tube, which has

also been reported as the commonest site by other studies[4].

Total 8 patients were treated with injection methotrexate with 50mg/m^2 (day-1) 1/M dose. Patients were counseled about the ongoing risk of tubal rupture. Serial B-HCG values were drawn and compared between day 4 and day 7 post treatment. However, a second dose is administered on days 7 if a 15% drop is not observed. 8 patients were enrolled is this study and 6 patient were successively treated.

Follow-up was done by weekly doing of HCG levels until declined to zero.

Laparotomy is the gold standard of surgical treatment of EP and only one case was undergone laparoscopy and two cases were failed on MTX treatment.

In this study period, efforts were made to prevent death related to EP and promote awareness about its risk.

Conclusion:

Ectopic pregnancy remains a gynaecological catastrophe in Bangladesh and a major challenge to the reproductive performance of women worldwide. Early detection of risk factor, early diagnosis of EP leading to early intervention can reduce the mortality and morbidity of women having EP. Conservative approach for methotrexate and laparoscopy surgery should be

used only for strict indication.

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