Original paper

Ectopic Pregnancy; Causes and Management in Kerbala Maternity Hospital

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Abstract

Background: Ectopic pregnancy is the implantation of embryo outside the endometrial cavity. Ectopic pregnancy remains an important cause of morbidity and mortality in early pregnancy.
Objective: to determine causes, signs and symptoms and treatment options offer for these patients.
Patients and methods: The study was carried out in kerbala maternity hospital from January 2014- June 2016. Female with ectopic pregnancy after taking history from them, examination, result of investigation, mode of treatment and any complication were recorded. The total admission to the hospital in this period was also recorded.
Results: The incidence of ectopic pregnancy during this period was 0.132%. the peak age of incidence was between 20-25 years. Majority of patients had lower educational level 57.14%. History of abortion and previous surgery were the major risk factors and their contribution was 41.07% and 35.71% respectively. 73.21% of patients did not using any contraception. 12.5% using oral contraception pills, 8.93% using intrauterine contraception device. Abdominal pain (92.86%) and vaginal bleeding (82.14%) were the most frequent presenting complains. Syncopal attacks occur in (28.57%). 87.5% had a period of amenorrhea and 12.5% of female had no period of amenorrhea. 60.72% of these females the right tube was affected. 51.79% of these cases the tube was ruptured at the time of operation. Laparotomy was done for 92.86% and salpingectomy done for 94.64% of these females.
Conclusion the majority of patients attending Karbala maternity hospital for EP were between 20-25 years and had history of abortion and previous abdominal surgery. Laparotomy with salpingectomy was the main modality of treatment.
Key word: ectopic pregnancy; maternal death in early pregnancy; maternal shock; laparoscopic salpingectomy; laparotomy

Introduction

Ectopic pregnancy is a potentially catastrophic condition for which patients often present to the emergency department. It remains an important cause of morbidity in early pregnancy. The incidence of ectopic pregnancy increased worldwide, may be due to an increase in pelvic infections, assisted reproductive technology or due to improvements in the diagnostic techniques. The incidence in the United States has increased greatly in the last few decades, from 4.5 per 1000 pregnancies in 1970 to an estimated 19.7 per 1000 pregnancies in 1992.[1,2] Ultrasonography should be the initial investigation for symptomatic women in their first trimester; when the results are indeterminate, the serum β human chorionic gonadotropin (β-hCG) concentration should be measured. Serial measurement of β-hCG and progesterone concentrations may be useful when the diagnosis remains unclear. Although spontaneous resolution of ectopic pregnancy can occur, patients are at risk of tubal rupture and catastrophic hemorrhage.[3,4] Ectopic pregnancy remains an important cause of maternal death,

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accounting for about 4% of the approximately 20 annual pregnancy-related deaths in Canada.[5] Despite the relatively high frequency of this serious condition, early detection can be challenging. In up to half of all women with ectopic pregnancy presenting to an emergency department, the condition is not identified at the initial medical assessment.[6] Although the incidence of ectopic pregnancy in the general population is about 2%, the prevalence among pregnant patients presenting to an emergency department with first-trimester bleeding or pain, or both, is 6% to 16%.[7–14] Thus, greater suspicion and a lower threshold for investigation are justified.

Material and methods

This study was carried out in the department of obstetrics and gynecology of Karbala maternity hospital between January 2014- June 2016. This is a cross sectional study, a total of 56 cases with ectopic pregnancy were included in this study. The information collected for each woman included (age, educational level, gynecological history, past obstetrical history, period of amenorrhea, previous operation, drug history such as using ovulation induction or contraception). Clinical presentation of these patients (abdominal pain, vaginal bleeding, syncopal attack) were recorded. These cases were followed up during the treatment course (type of treatment - medical or surgical-, laparoscopy or laparotomy, intraoperative finding such as site and side of EP, presence of hemoperitoneum) and any post operative complications (the need of blood transfusion, postoperative wound infection, prolong hospital stay or admission to intensive care unit). The total admission within the period of study were also used in the analysis. **Statistical analysis;** Using SPSS version 24 was used in the analyzing of data

Results

The total number of admissions to the hospital during the studied period was 42300 cases. the incidence of EP in our study is 0.132%. Table 1 shows the sociodemographic factors of the studied group. The peak age of incidence was in the 20-25 years (37.5%) Followed by 26-30 years (19.64%), while female more than 40 years had a lower incidence (3.57%). Primigravida was the highest incidence (30.36%) while female with 5 or more children has the lowest incidence (7.14%). Female with lower educational level have a higher incidence (57.14%) compared with female with higher educational level (19.64%).

Table (2) shows the various risk factors for ectopic pregnancy in the studied group, history of previous abortion had a higher risk (41.07%) followed by previous surgery(35.71%),history of sub fertility carries a risk of (30.36%), while female with history of previous pelvic infection carries about (28.57%), female using contraception carries (26.79%) (female using pills had a highest percent(12.5%) while those using barrier method had a lowest risk (1.79%)) some patients had multiple risk factors. Female with secondary sub fertility had a higher risk for ectopic pregnancy (17.86%) compared with female with primary sub fertility (12.5%)

Table (3) shows the clinical presentation of these female. Abdominal pain was the main presenting complain (92.86%) followed by vaginal bleeding (82.14%). Syncopal attack with sever hypotension occur in (28.57%) and (3.57%) were asymptomatic discovered by ultrasound. (46.43%) had 7-10 weeks of amenorrhea, (32.14%) had 4-6 weeks of amenorrhea while (8.93%) had more than 10 weeks of amenorrhea.

Table 4 shows intraoperative finding of these cases, right tube affected in 60.72% while the left tube affected in 39.29%. tubal ectopic pregnancy found in 94.46%, ovarian ectopic occur in 3.57% while

ectopic pregnancy in rudimentary horn occur in 1.78%. tubal ruptured occur in 51.79% of cases while hemoperitoneum with non-ruptured ectopic pregnancy found in 48.21%

Table 5 shows the treatment modalities offers to these cases. Laparotomy done in 92.86% while laparoscopy done for 7.14%. Medical treatment using methotrexate used in 3.57% which complicated by rupture ectopic pregnancy and converted to laparotomy. Salpingectomy done for 94.64%, salpingoopherectomy done for 3.57% (ovarian ectopic) and hysterectomy done for (1.79%) (rudimentary horn ectopic).

Table 1. Sociodemographic characteristics of the group studied.

AGE IN YEARS	NOMBER OF CASES	PERCENTAGE
< 20	5	8.93
20-25	21	37.5
26-30	11	19.64
31-35	10	17.86
36-40	7	12.5
>40	2	3.57
PARITY	NOMBER OF CASES	PERCENTAGE
0	17	30.36
1	6	10.71
2	12	21.43
3	9	16.07
4	8	14.29
≥ 5	4	7.14
EDUCATIONAL LEVEL	NOMBER OF CASES	PERCENTAGE
primary	32	57.14
secondary	13	23.21
higher level	11	19.64

Table 2. Various risk factors presented in the studied group

RISK FACTORS	NOMBER OF CASES	PERCENTAGE
1- pelvic inflammatory disease	16	28.57
2- abortion	23	41.07
3- previous surgery	20	35.71
caesarean	18	32.14
appendix	4	7.14
ovarian cyst	1	1.79
4- contraception	15	26.79
IUCD	5	8.93
oral pills	7	12.5
injectable	2	3.57
barrier	1	1.79
5- infertility	17	30.36
primary	7	12.5
secondary	10	17.86

Table 3. Clinical presentation of patients presented in the study

	Number of patient	Percentage
1- Abdominal pain	52	92.86
2- Vaginal bleeding	46	82.14
3- Syncopal attack	16	28.57
4- No symptom	2	3.57
5- Period not missed	7	12.5
6- Amenorrhea		
4-6 week	18	32.14
7-10 week	26	46.43
>10 week	5	8.93

Table 6 shows Post-operative follow up of these females. 67.86% requiring blood transfusion, no women need intensive care unit admission, prolonged hospital admission or suffering from wound infection.

Discussion

Ectopic pregnancy in developing countries is a serious maternal threat with a significant morbidity and mortality. The incidence of ectopic pregnancy in our study about 0.132% which is lower than other study done in 2016 they found that the incidence of ectopic pregnancy in their study around 1.8% [15] and 1.17% [17]. 37.5% of cases occur in female with 20-25 years age, like some study which found higher incidence of ectopic pregnancy occur in female between 21-25 (42%)[18], but unlike other study which found higher incidence of ectopic pregnancy occur in female around 30-34 year (34%) [16] other study found that female between 35-40 years had a high incidence of ectopic (28.57)[17].

In our study female with history of previous abortion had a high risk for ectopic pregnancy, while other study found that the previous history of PID had a higher incidence of ectopic pregnancy [15] this may be due to lower incidence of PID in our country compared to western country. The risk of ectopic pregnancy was higher in women with a history of previous abortions (41.07%) while other study found that female with ectopic pregnancy had no previous history of abortion in about (82.2%) [16].

In our study we found that primigravida had a higher risk of ectopic pregnancy (30.36%) which is also found in some other study (39.5%) [16] while other study found the incidence of ectopic pregnancy is higher in multiparous women (50%) [15]. We found that history appendicectomy was present in (7.14%) which is near the result of other study (5.4%) [16].

Regarding contraception, in our study we found female with oral contraceptive pills had a higher risk of ectopic pregnancy (12.5%) compared to female using IUCD (8.93%), while in other study found that female using IUCD or oral contraceptive pills have the same risk factor for developing ectopic pregnancy (6%)[15] and I think that the difference is due to improper use of pills in our study. Female with infertility had higher risk for ectopic pregnancy in our study (30.36%) compared to other study (10%) [15].

Table 4. Findings at surgery

	Number of cases	Percentage
1- Side tube affected		
Left	22	39.29
Right	34	60.72
2- Site of ectopic		
-fallopian tube	53	94.64
-ovarian	2	3.57
-rudimentary horn	1	1.78
-abdominal	0	0
3- Status of the tube		
- Ruptured	29	51.79
- unruptured	27	48.21

Table 5. Management options adopted

	Number of patients	Percentage
Laparotomy	52	92.86
laparoscopy	4	7.14
Medical (MTX)	2 (FAILED)	3.57
Salpingectomy	53	94.64
Salpingoopherectomy	2 (ovarian)	3.57
Hysterectomy	1 (rudimentary horn)	1.79

Table 6. Post operative requirement and complications

	Number of patient	Percentage
Blood transfusion	38	67.86
ICU admission	0	-
Wound infection	0	-
Prolong hospital admission	0	-

In our study we found the female with ectopic pregnancy present around 7-10 weeks gestation in (46.43%) of cases which was also found in other study (between 6-8 weeks gestation (57.14%)) [17].

We found that ectopic pregnancy in rudimentary horn occur in one case (1.78%) that need hysterectomy while others found that rudimentary horn ectopic pregnancy occur in (2%) of cases [18].

Tubal rupture was found in (51.79%) which is higher than other centers (35.71%) [17] this is usually due to delay diagnosis.

Medical management of ectopic pregnancy was tried in 2 cases (3.57%) but was complicated by tubal rupture and need emergency laparotomy while other study used medical treatment in 2 cases (14.29%) which was successful [17].

Abdominal pain was the most presenting symptom which occur in (92.86%) which is also the most presenting symptom in other study (71.43%) [17, 18]. Vaginal bleeding which is a second most common presenting symptom which occur in (82.14%) which also found as a second common presenting symptom in other study (48%) [18]. We found (28.57%) of female present in shock state while other study found around (10%) of female present in shock state [18].

Conclusions

the incidence of ectopic pregnancy is increasing over the past few years. Female between 20-25 years had a higher incidence of ectopic pregnancy (37.5%), Primigravida had a higher incidence of ectopic pregnancy (30.36%), Female with a previous history of abortion had a higher incidence of ectopic (41.07), abdominal pain (92.86%) and vaginal bleeding (82.14%) were the most presenting complain, female usually present in 7-10 weeks gestation (46.43%). Ectopic rupture occurs in (51.79%).

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