Original Article

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Is Surgical Intervention for Ectopic Pregnancy in a Low Resource Set-Up Avoidable?

Obstetrics and Gynaecology Section

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ABSTRACT

Background - Ectopic pregnancy is one of the most common life threatening complications in the first trimester of pregnancy having significant adverse effects on future pregnancy outcome, particularly if salpingectomy is used as the modality of treatment. So medical management is now advocated. For that, cases need to be diagnosed at an earlier stage. Keeping these backgrounds in mind we took up this study to look into the feasibility of conservative management– both medical and surgical - in a tertiary care centre.

Aims – To find out the demographic profile and risk factors of the ectopic pregnancy cases; the clinical presentation of the cases; the mode of treatment offered to the patients.

Methods - It was a record based retrospective study.All the patients diagnosed as ectopic pregnancy in a tertiary care hospital from January, 2011 to December, 2012, was included in the study.

Results - A total of 234 ectopic cases (1.5% of total deliveries) were recorded, constituting 5.4% of total gynaecological emergencies of this institute. Majority of patients were multigravida (74.4%) and of age group of 26-30years (35.9%). Fallopian tube was the most common site (99.1%) with only two cases in ovary. Ampulla (71.4%) was found to be most frequent site for implantation in fallopian tube.Pelvic inflammatory diseases (38.5%) and past history of induced abortion (35.9%) were major risk factors. Most patients (63.3%) did not use any contraceptives and 30.3% patients used OCP intermittently. No patient presented before 4weeks of gestation, while 69.2% presented between 4-7weeks and the rest beyond 7week. They presented with shock in 44.9% cases. Surgical treatment was offered in 98.3% cases, while medical treatment was offered to only four cases.

Conclusion - There is a huge surgical burden due to ectopic pregnancy impinging on our hospital resources. Surgery is resorted to indiscriminately for even those cases that could have been medically treated otherwise. Hence the need to change the mindset of the care-providers at all levels to opt for medical management of ectopic pregnancy wherever applicable.

Keywords: Ectopic pregnancy, Low-resource set-up, Medical management, Surgical management, Retrospective study

INTRODUCTION

Ectopic pregnancy is defined as pregnancy that develops following implantation anywhere other than the endometrial cavity of the uterus [1]. It is one of the most common life threatening complications in the first trimester of pregnancy [2]. It has significant adverse effects on future pregnancy outcome, particularly if salpingectomy is used as the modality of treatment [3,4]. So nowadays, conservative surgical management with preservation of the fallopian tube is advocated[2,5,6]. There is also a scope for medical management of ectopic pregnancy, particularly if diagnosed in the hemodynamically stable conditions[5,6]. Medical management would reduce the morbidity and mortality of the patients, reduce the hospital stay as well as curtail the cost of treatment considerably [7]. Further, future fertility would also be minimally hampered [3]. For these reasons,ectopic pregnancy needs to be diagnosed at an earlier stage [2]. Nowadays, because of availability of better diagnostic modalities, ectopic pregnancy can be diagnosed at an earlier stage and before the development of complications[8,9]. Keeping these backgrounds in mind we took up this study to find out the profile of the ectopic cases in our tertiary care set-up as well as look into the feasibility of conservative management– both medical and surgical - in this scenario.

AIM

To find out the demographic profile and risk factors of the ectopic pregnancy cases attending College of Medicine & JNM Hospital.

To find out the clinical presentation of the cases.

To find out the mode of treatment, offered to the patients.

MATERIALS AND METHODS

The study was undertaken in a tertiary care teaching hospital (College of Medicine & JNM Hospital, Kalyani,) of Kalyani , West Bengal, from January, 2011 to December, 2012(study period – 2years). It was a record based retrospective study. All the cases during this time period, which were diagnosed as ectopic pregnancy after clinical evaluation and laboratory investigations, were included in the study. The hospital records of these cases were scrutinised and necessary information were recorded in a predesigned case record proforma.

RESULTS

Out of total15645 deliveries during this time period, 234 ectopic cases were recorded. So the occurrence of total ectopic pregnancy was 1.5% of total deliveries and it constituted 5.4% of total gynaecological emergencies of this institute.

[Table/Fig-1] Most of the patients were of age group 26 – 30 y (35.9%), followed by age group of 21-25 y (25.6%). Out of a total 234 cases, 60 (25.6%) cases were gravida1, where as gravid 2 were 78 (33.4%) and gravid 3 and more were 96 cases (41%).

[Table/Fig-2] In majority of cases (232 cases out of a total 234 cases, 99.1%) the site of ectopic pregnancy was fallopian tube with only two cases were ovarian pregnancy. Among them 56.8% cases were in left fallopian tube where as 42.3% cases were in right fallopian tube.

[Table/Fig-3] The most frequent risk factor encountered in this study was pelvic inflammatory disease (38.5%), followed by past history of abortion (35.9%). History of previous surgery was found in 17.9% cases. 20.5% cases had a history of treatment for infertility.

Age groups	No. of patients	Percentage
15 - 20	12	5.2
21- 25	60	25.6
26- 30	84	35.9
31- 35	48	20.5
36- 40	30	12.8
Total	234	
Gravida	No of patients	Percentage
G1	60	25.6
G2	78	33.4
G3& above	96	41.0
Total	234	

[Table/Fig-1]: Demographic profile of the patients

Site		No of patients	Total number of patients	Perce-ntage	Total percentage
Left fallopian tube	Ampulla	94	133	70.7	56.8
	Isthmus	20		15	
	Fimbrial end	15		11.3	
	Cornu/ Interstitium	04		3	
Right fallopian tube	Ampulla	73	99	73.7	42.3
	Isthmus	14		14.1	
	Fimbrial end	10		10.1	
	Cornu/ Interstitium	02		2.1	
Ovary		2		0.9	
Total		234			

[Table/Fig-2]: Sites of ectopic pregnancy

Regarding contraceptive use, most patients (63.3%) did not use any contraceptive. 71 (30.3%) patients had history of OCP use. These patients gave history of intermittent use of the contraceptives. 9 patients (3.8%) had a history of IUCD use; of them one had in situ IUCD. Barrier method was used by 5 patients (2.2%) and one patient had undergone tubal ligation.

[Table/Fig-4] In this series none of the patients presented before 4wk of gestation and 162 (69.2%) patients presented at 4- 7 wk of gestation. Of them 79 (48.8%) patients had abdominal pain, 33(20.4%) patients had vaginal bleeding and 65 (40.1%) patients presented with shock, whereas 4(2.5%) patients were detected incidentally. A total of 72 (30.8%) patients presented at more than 7wk of gestation. Of them 65(90.3%) patients had abdominal pain, 57 (79.2%) had vaginal bleeding and 40 (55.6%) presented with shock. So as a whole, out of 234 patients, 144 (61.5%) presented with abdominal pain, 90 (38.5%) with vaginal bleeding and 105 (44.9%) had shock.

[Table/Fig-5] Conservative treatment was done in only 4 (1.7%) patients, while in all other 230 (98.3%) cases surgical treatment was offered. Among them 6 patients (2.6%) who had cornual pregnancy underwent hysterectomy, salpingo-ophoorectomy was done in 2 ovarian pregnancy cases(0.9%). The rest 222 (94.9%) patients underwent salpingectomy as they all had tubal pregnancy. Of them 58 patients (24.7%) had bilateral salpingectomy where as unilateral salpingectomy was performed in 164 cases (70.1%).

Name of the risk factor	No of patients	Percentage
Pelvic inflammatory disease	90	38.5
Past H/O abortion	84	35.9
H/o Abdomino-pelvic surgery	42	17.9
H/O treatment for infertility	48	20.5
Total	264(many patients had more than one risk factors)	
Risk related to contraceptive use		
No contraceptive	148	63.3
Barrier	5	2.2
OCP	71	30.3
IUCD	9	3.8
Tubal ligation	1	0.4
Total	234	

[Table/Fig-3]: Risk factors

Period of gestation	Abdominal pain	Vaginal bleeding	Shock	Incidental findings	Total
<4 weeks	0	0	0	0	0
4-7 weeks	79(48.8%)	33(20.4%)	65(40.1%)	4(2.5%)	162 (69.2%)
>7 weeks	65(90.3%)	57(79.2%)	40(55.6%)	0	72 (30.8%)
Total	144 (61.5%)	90 (38.5%)	105 (44.9%)	4 (1.7%)	234

[Table/Fig-4]: Presenting symptoms and period of gestation

Mode of treatment	No of patients	Percentange
Bilateral Salpingectomy	58	24.7
Unilateral salpingectomy	164	70.1
Salpingo-Oophorectomy	2	0.9
Hysterectomy	6	2.6
Conservative treatment	4	1.7
Total	234	

[Table/Fig-5]: Mode of treatment

DISCUSSION

The occurence of ectopic pregnancy has been found to be very low in different studies ranging from 0.25% to 0.93% [2,10,11]. We found it to be 1.5% of total deliveries and it constituted 5.4% of total gynaecological emergencies of this institute. The incidence of ectopic pregnancy in and around Kalyani and the emergency surgical burden arising out of it is undoubtedly large enough to be of concern. So we have taken up this study essentially to find out measures that would reduce the emergency surgical burden as well as look into and address the cause behind such a rise in the occurrence.

We found that most of the patients (35.9%) were of age group 26 – 30 y. It corresponds to the observations by Poonam et al., who found it to be similar in their study [10]. Another study by Shaista Aziz et al, also found the mean age to be 26-34 y [11]. But in the present series, the occurrence in the other age groups was not lagging far behind. In the 15 to 25 y age group the incidence was 31% while in the 31 to 40 y age-group the incidence was 32%. This demographic pattern may be explained by the fact that in this locality the incidence of early marriage prevails. Because of the increased fecundity in this

age group there is a simultaneous increase in ectopic pregnancy rate as well. While in the >30 y population the increased incidence of ectopic pregnancy could be as a result of miscarriage, PID and or secondary sub fertility.

In our study, 25.6% cases were primigravida, 33.4% cases were gravida 2 and 41% cases were gravida 3 or more. Multigravida patients were also found to be more commonly affected in other observational studies [2,11].

In one study, majority of the cases were found to be ampullary pregnancies, followed by interstitial pregnancies [2]. Another study showed that ampulla (62.6%) followed by isthmus (21.3%) were the commonest sites of ectopic implantation [10]. Ovarian and abdominal pregnancies contributed to only 1.3% each [10]. There was no significant difference between the sides of the tube involved [10]. In majority of our cases (232 cases out of a total 234 cases) the sites of ectopic pregnancy were fallopian tube with only two cases were ovarian. Amongst the tubal pregnancies, 56.8% cases were in left fallopian tube where as 42.3% cases were in right fallopian tube. Within the fallopian tube ampulla is the commonest site in both sides.

Poonam et al., found pelvic inflammatory disease (61.3%) and induced abortions (38.6%) were the major risk factors [10]. In another study the main risk factors were infectious diseases and smoking [12]. The other risk factors were age (associated per se with a risk of ectopic pregnancy), prior spontaneous abortions, history of infertility, and previous use of an intrauterine device [12]. Prior medical induced abortion was associated with an increased risk of ectopic pregnancy; no such association was observed for surgical abortion [12]. Another study found majority (37.8%) of the patients had previous medical induced or spontaneous abortion [11]. We also found that pelvic inflammatory disease (38.5%), along with a past history of abortion (35.9%) were the major risk factors. Also, a relationship between PID and miscarriage has been observed as almost 50% of the patients with PID gave a history of medical or surgical abortion – most of them not being medically supervised. It could be deduced that the miscarriages led to PID and the PID became the primary cause of the ectopic pregnancy. History of previous surgery was found in 42(17.9%) cases. Forty eight (20.5%) cases had a history of treatment for infertility.

Most patients (63.3%), in our study, did not use any contraceptive. Some (30.3%) patients gave history of OCP use. Similar observation was found by Rashmi et al., who found 70.6% of patients did not use any contraception and 16% used depo provera [2].

Ideally OCP reduces the incidence of ectopic pregnancy [13]. But here, patients used OCP intermittently, during acts of coitus only, like an emergency contraceptive pill. This could be responsible for this increased association of OCP use with ectopic pregnancy [14]. This intermittent use also led to irregularity of the menstrual cycle. Thus missed period could not be identified early resulting in late diagnosis of ectopic pregnancy; thereby making medical treatment impossible and leaving surgical management as the only option.

In a study, pain abdomen, amenorrhoea and bleeding per vagina were present in at least 50% of the cases and almost half (40%) were in a state of shock at admission [2]. Poonam et al., found abdominal pain (69.3%), vaginal bleeding (45.3%) and syncopal attacks (21.3%) to be the most frequent presenting complaints [10]. In our study also, majority (61.5%) presented with abdominal pain. Some had vaginal bleeding (38.5%) and a large group of patients (44.9%) were admitted in a state of hemodynamic shock. We found that in most of the cases (98.3%) surgical treatment was offered. Amongst them 6 patients who had cornual pregnancy underwent hysterectomy; salpingo-ophoorectomy was done in two ovarian pregnancy cases and the rest 222 (94.9%) patients underwent salpingectomy. In other studies also surgery was the main treatment option [2,10], where majority of patients underwent salpingectomy (69.3%) followed by salpingo-oophorectomy (17.3%) [10]. In the study by Poonam et al., most patients (58.6%) had amenorrhea of 6-10 wk [10]. Shaista Aziz et al., found the most frequent gestational age was 6-8 wk [11]. In the present series most (69.2%) patients presented at 4- 7 wk.

It was observed that the patients in our catchment area were too reluctant to visit a doctor when they missed their periods. The women in our locality are very casual about obstetric health. Moreover, those women who do show up with pregnancy symptoms are not diagnosed as ectopic pregnancy because of several reasons. Firstly, neither patients nor doctors are ectopic minded. Secondly, there is a lack of infrastructure, e.g. non-availability of USG machine and blood test for beta HCG. Thirdly, there is a lack of expertise to diagnose ectopic. If one can suspect ectopic early then also the patients would be referred early. Thus due to the delay in diagnosis majority of the patients had to undergo laparatomy. Moreover, laparatomy is even opted for patients presenting to our hospital in early weeks of gestation as well as in a stable state. This is because follow-up after medically managing the patients are problematic and many patients are thus lost or return to the hospital with shock.

Thus, from this study we have been able to identify a huge surgical burden due to the ectopic pregnancy that inadvertently impinges on our hospital resources. It has also been identified that surgery is resorted to indiscriminately for even those cases that could have been medically treated otherwise. Hence, the need therefore to change the mindset of the care-providers at all levels to opt for medical management of ectopic pregnancy wherever applicable. Moreover, this huge burden of patients presenting in a state of shock can be reduced if the diagnosis of ectopic pregnancy can be made at an earlier stage when medical management would have sufficed. For these reasons we need to emphasize on early pregnancy detection and inculcate the habit of becoming ectopic minded. In our study we have found that the increased incidence of PID and abortions as well as the lack of proper contraceptive use has resulted in an increased incidence of ectopic pregnancy. Thus, contraceptive use needs to be promoted to bring down the incidence of ectopic pregnancy.

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