Original Article

Clinical Analysis of Ectopic Pregnancy in a Tertiary Care Hospitals

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ABSTRACT

OBJECTIVE: To determine Clinical presentation and risk factors of Ectopic pregnancy to highlight and drawing attention for early diagnosis and prompt management.

METHODOLOGY: This retrospective study was conducted in Department of Gynecology and Obstetrics at Liaquat University Hospital Hyderabad from January 2018 to December 2018. During one year of study period, 25 cases of ectopic pregnancies were enrolled in the study. In all cases age, parity, gestational age, risk factors, signs and symptoms, site of ectopic pregnancy and surgical intervention were noted on Performa and data was analyzed, results depicted in charts and tables.

RESULTS: Most patients aged between 20-30 years with gestational age of 2 months, in parity 08 were primigravida, 06 were gravida 1, 05 were gravida 2, 03 in each gravida 3 and 4. One patient had a history of miscarriage, 02 underwent infertility treatment, 03 had previous ectopic pregnancy, 02 patients with previous cesarean section, while 08 patients given the history of pelvic inflammatory diseases. Six patients were diagnosed clinically while 15 cases through abdominal ultrasound and 4 through transvaginal ultrasound. Amenorrhea was present in 22 patients, vaginal bleeding in 20 cases and lower abdominal pain in 18 cases, while 08 patients presented in shock.

CONCLUSION: Early diagnosis prevents complications such as rupture of ectopic pregnancy, which end up with excision of fallopian tube or ovary badly affecting fertility.

KEYWORDS: Ectopic pregnancy, Cervical excitation, Clinical Analysis, TVS

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INTRODUCTION

Ectopic pregnancy (EP) is a worldwide problem with increasing frequency since last three decades, which accounts for approximately 1:100 of all pregnancies. In Pakistan the reported incidence is about 1:112 to 1:130. EP is a life and fertility threatening condition, foremost cause of maternal mortality during first trimester of pregnancy[1].

A pregnancy is said to be ectopic when embryo implants at any other site rather than body of uterus or defined as an extra uterine gestational sac with yolk sac and/or embryo, with or without cardiac activity on transvaginal sonography (TVS). In 95% of cases it is seen in the fallopian tubes, classified as tubal and remaining 5% may occur in the cervix, ovaries or abdomen classified as non-tubal. Pelvic infection, smoking, previous pelvic surgery, infertility treatment are common risk factors. Anatomical or physiological blockage, decreased motility and dysfunctional cilia of fallopian tube probably promote implantation in tube. The certain mechanism is still unidentified which offers researchers to focus on understanding the etiology, preventable measure and develop new methods for early diagnosis and treatment of EP for better outcomes[2-4].

Early diagnosis of EP is crucial step to determine the consequences from presentation to prognosis. The spectrum of presentations ranges from the asymptomatic woman diagnosed on transvaginal ultrasound (TVS) to massive intra-abdominal bleeding and shock. The classic symptoms of EP are triad of secondary amenorrhea, abdominal pain and vaginal bleeding, which is less frequently observed. Diagnostic criteria are based on serum beta-HCG concentration, transvaginal or abdominal ultrasound[5,6].

EPs are potentially life threatening because as the fetus grows, beyond the capacity of tube, the tube ruptures leading to intraperitoneal bleeding. In developing countries, including Pakistan diagnosis and interventions are delayed versus early diagnosis in developed countries which favors good outcomes when compared with developing ones.

EPs often present as critical emergency with symptoms misleading to diagnosis, hence this study was intended to ascertain presentation; risk factor and management in our set up, to high light and add to local literature for drawing attention for early diagnosis and prompt management to reduce morbidity and mortality in tertiary care teaching hospital.

METHODOLOGY

This retrospective study was conducted in Department of Gynecology and Obstetrics at Liaquat University Hospital Hyderabad from January 2018 to December 2018. After ethical approval and consent taken from patients /attendants of the patients, samples were collected by non probability convenient sampling. This study was carried out on all women diagnosed with ectopic pregnancy (EPs) admitted during study period and were included in this study, while patients in whom diagnosis of ectopic pregnancy was not confirmed or not willing were excluded from this study. A predesigned Performa was used to collect the data. The data was analyzed on SPSS software version 22 with simple descriptive statistics using percentages and depicted in charts and tables[7].

RESULTS

During study period, 25 cases of Ectopic pregnancy were attended in the Department of Obstetrics and Gynecology, Liaquat University Hospital. Out of 25 women 22(88%) were aged between 20-30 years, while 03(12%) were aged between 30-40 years. Regarding parity out of 25 women, 08(32%) were primigravida, 06(24%) were gravida 1, 05(20%) were gravida 2, 03(12%) in each gravida 3 and 4. Gestational age was up to one month in 10(40%) cases, 13(52%) had gestational age of two months and 02(8%) were having gestational age of 03 months according to date of last menstrual period given by patient or report of ultrasound. Regarding risk factors 01(04%) patient had history of miscarriage, 02(08%) had gone for infertility treatment, and 03(12%) had previous pregnancy ectopic pregnancy, previous cesarean section was seen in 02 (08%) patients while 08(32%) patients were given the history of pelvic inflammatory disease. Out of total 25 cases 06(24%) were clinically diagnosed, 15(60%) cases through abdominal ultrasound and 04(16%) through transvaginal ultrasound. Surgical intervention is required in all cases salpingectomy was performed in 21(84%) cases, oophorectomy in 03(12%) cases and in 01(04%) patient tubal ligation was performed Table I.

As far as symptoms, history of gestational amenorrhea was given by 22 patients, vaginal bleeding was in 20 cases and lower abdominal pain was present in 18 cases, while 08 patients presented in shock, on examination abdominal tenderness was seen in 18 cases and cervical excitation was positive only in 05 patients Table II.

Regarding site of EPs commonest seen in tube in 22 (10 on right and 12 on left) cases and 03(02 in right and 01 in left) cases seen in ovary Table III.

TABLE I: DEMOGRAPHIC DATA OF PATIENTS WITH ECTOPIC PREGNANCY

Age in years	No. of Patients	Percentage
20-30	22	88%
31-40	03	12%
Parity		
0	08	32%
1	06	24%
2	05	20%
3	03	12%
4	03	12%
Gestational age in months		
01	10	40%
02	13	52%
03	02	08%
Risk Factors		
Previous Miscarriage	01	04%
Infertility Treatment	02	08%
previous Ectopic pregnancy	03	12%
Previous Cesarean Section	02	08%
Pelvic Inflammatory Disease	08	32%
Diagnostic Tool		
Clinical	06	24%
Ultrasound pelvis	15	60%
Transvaginal ultrasound	04	16%
Surgical Intervention		
Salpingectomy	21	84%
Oophorectomy	03	12%
Tubal ligation	01	04%

TABLE II: SHOWING SYMPTOMS AND SIGNS OF ECTOPIC PREGNANCY

Symptoms	No. of Patients	Signs	No. of patients
Amenorrhea	22 (88%)	Syncope/ shock	08 (32%)
Vaginal Bleeding	20(80%)	Abdominal tenderness	18 (72%)
Abdominal Pain	18(72%)	Cervical excitation +ve	05(20%)

TABLE III:
SHOWING SITE OF ECTOPIC PREGNANCY

Site: Fallopian tube			
Right		Left	
Rupture	**Un ruptured**	**Rupture**	**Un ruptured**
09 (36%)	01(04%)	10 (40%)	02 (08%)
Ovary			
Right		Left	
Rupture	**Un ruptured**	**Rupture**	**Un ruptured**
01 (04%)	01 (04%)	00 (00%)	01 (04%)

DISCUSSION

EP is a clinical manifestation of poor fertility, accounting for 1% to 2% of all pregnancies carries significant risk factor for future fertility with poor outcomes in successive pregnancies. Patient may present with irrelevant symptoms such as shock without awareness of pregnancy which is misleading situation for diagnosis and management. Hormonal levels of β-human chorionic gonadotropin (β-hCG) and abdominal or transvaginal ultrasound are mainstay of diagnosis[8].

In this study majority of patients were aged between 20 - 30 year i.e. 22 (88%) out of 25 which are similar to the studies conducted by Shabab U 2013[9] and Poonam Y 2005[10], this relevance is also correlated with the peak reproductive age as well.

Studies regarding parity showed more frequency in primiparous by Islam A et al (31.3%)[11], at Ayub hospital as seen in this study also, where out of 25 women 08(32%) were primigravida, while Shafquat T 2013[12] found most frequent among multipara (47.3%) as compared to primipara (34.66%). In this study 06 (24%) were gravida 1, 05 (20%) were gravida 2, 03 (12%) each in gravida 3 and 4 which is almost similar to other authors.

Tahmina S 2016[13] and Khaleeque F 2001[14] studied gestational age of 6-7 weeks, similar presentation was found in this study as well where gestational age of one month seen in 10(40%) cases, 13 (52%) had gestational age of two months and 02 (08%) were having gestational age of 03 months.

In our study 16 (64%) out of 25 cases of ectopic pregnancy risk factors are identified which are comparable with other studies as well. Risk factors identified in this study are as 01 (04%) patient had history of miscarriage[15], while Shrivastiva M 2017[16] observed miscarriage in 17% and 34% by Tahmina S 2016[13].

Infertility treatment was reported by 02(08%) patients, which corresponds with Bhavina et al[17] who noticed ovulation induction in 10% cases and similar by Khaleeque F 2001[14] as well.

We observed 03(12%) patients had previous pregnancy ectopic, and 02 (08%) had previous cesarean section, while Islam A et al[11] found previous ectopic in 4.44% and previous abdominal pelvic surgery in 6.67% of cases, Priyadarshini B et al[18] found Caesarean section in 13% patients and previous ectopic in 9% patients which are closer to our study. Most common identified risk factor was pelvic inflammatory disease seen in 08 (32%) patients which were reported similar by Bhavana et al[17] 22.70% and Hassan N 2009[7] 35.4%.

As the diagnosis of EP in earlier stage provide the opportunity of availing conservative treatment and minimizing risk for patient life and fertility. TVS is of gold standard value in diagnosis of EP in early first trimester, by notifying more than 80% of EPs before rupture and more than 50% in asymptomatic women. As most of the patients referred to tertiary care hospitals are from rural areas which are deprived of basic health care facilities, patients due to unawareness and poverty frequently not assess the basic health facilities even if present. Usually patients of EP are brought in emergency without any investigation regarding pregnancy and in such situation clinical presentation are correlated with history and diagnosis was ensured by ultrasound and hormonal assay of beta HCG[19].

In this study out of total 25 cases 06 (24%) were clinically diagnosed, 15(60%) cases through abdominal ultrasound and 04(16%) through transvaginal ultrasound whereas Iqbal A et al[11] found (51.11%) were clinically diagnosed, 20(44.44%) through abdominal ultrasound and 2 (4.44%) through vaginal ultrasound. Although there is difference in clinical diagnosis in both studies but regarding abdominal ultrasound similar results are found probably due to lack of facility of transvaginal sonography. Study conducted by Khan B 2013[20] shows diagnosis on clinical assessment more than other parameters.

As most patients present with ruptured tubal pregnancy surgical intervention is required in emergency and for securing massive bleeding usually laparotomy with salpingectomy is performed which definitely reducing the fertility of woman to 50%, therefore it's the classical need of time to create awareness among ladies of reproductive age especially with risk factors must have transvaginal scan to confirm pregnancy moreover the site of pregnancy which may be helpful if diagnosed earlier in conserving fertility by treating ectopic with medical therapy. However, in our study as in many developing countries, salpingectomy was done due to late presentation in 21(84%) cases, oophorectomy in 03 (12%) cases and in 01(04%) patient tubal ligation was also performed with salpingectomy similar are reported by Tahmina S 2016[13] and Igwegbe AO 2013[21] who conducted study in the developing setup similar to us.

Regarding symptoms history of amenorrhea is given by 22(88%) patients, vaginal bleeding was in 20(80%) cases and lower abdominal pain was present in 18 (72%) cases, this classical triad of symptoms was seen in 70% of our cases. Singh S 2014[22] reported this triad to be present in 28-95% women. History of amenorrhea and vaginal bleeding were found in (73.6%) and (57.8%) patients as reported by Shah N 2005[23], while Qazi Q 2010[24] reported abdominal pain (90%), amenorrhea (84%), vaginal bleeding (70%), both studies almost resembles with present study.

Abdominal and cervical motion tenderness is classical signs of an EP which are unfortunately not seen in most patients. Here also 08(32%) patients present in shock, on examination abdominal tenderness was seen in 18(72%) cases and cervical excitation was positive only in 05 (20%) patients shown in Table II. Khaleeque F 2001[14] reported abdominal tenderness in 84.6% and cervical excitation in 64%, Patel M 2016[25] reported cervical excitation in 48% of cases, while Ehsan N 1998[26] reported shock in 24% abdominal tenderness in 80% and cervical excitation in 90% variation is possible due to presentation of patients in variable age of gestation as well as varying preconception status of every patient.

Regarding site of EPs commonest seen in tube in 22 (88%), 10 (40%) on right and 12 (48%) on left) tube, and in ovary 03 (12%) of which (02 (08%) in right and 01(04%) in left) ovary shown in Table III. Shrivastava M and Parashar H 2017[16] found 90% in Fallopian tube, 04% in ovary and remaining adherent to bowel or heterotopic which is not seen in present study out of which ruptured ectopic in 91.5% cases while in 9% unruptured tube was observed. Study by Islam A et al[11] reported 71.1% patients with ruptured ectopic while 28.9% were present with unruptured ectopic with evidence of 62.2% cases in right sided fallopian tube and 37.8% were in left sided fallopian tube. These findings regarding site are not in agreement with study by Islam A et al[11] and Musa J 2009[27] who found most cases in right while study by Poonam Y 2005[10] shows no significant difference in site.

CONCLUSION

Ectopic pregnancy is dire obstetrical emergency in women of reproductive age. This critical situation can be handled by prompt diagnosis through TVS, urgent referral to tertiary health care and taking required interventions (laparotomy, laparoscopy) to conserve fertility and fatality. Awareness must be given to females of child bearing age through electronic/social media forums as to seek immediate medical care/ advice if there are symptoms of syncope and lower abdominal pain with missing of menstrual cycle even of shorter duration to rule out ectopic pregnancy.

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