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Abstract

Background: To assess cases of ectopic pregnancy. **Materials and Methods:** Eighty cases of ectopic pregnancy was included in this prospective, observational study. Patients with positive urine pregnancy test without any intrauterine gestational sac were diagnosed as ectopic pregnancy based on USG features of adnexal mass and/or intraperitoneal free fluid. Parameters about blood group, parity, history of previous ectopic pregnancy, previous abdominal surgery, history of dilatation and curettage, pelvic inflammatory disease, usage of intrauterine device, demographic features, risk factors, clinical features at presentation was recorded. **Result:** Age group 18-28 years had 24, 28-38 years had 48 and >38 years had 8 patients. The difference was significant ($P < 0.05$). Common symptoms were bleeding pv in 54, amenorrhea in 65, pain abdomen in 34, syncope in 20, vomiting in 14, fever in 47 and passage of clots in 15 patients. Common signs were fullness in fornix in 34, abdominal tenderness in 11, abdominal distension in 12, adnexal mass in 5 and cervical motion tenderness in 8 cases. Parity was 0 in 34, 1 in 40 and >2 in 6 cases. Education was primary in 40, secondary in 22 and degree in 18 cases. The difference was significant ($P < 0.05$). Common risk factors for ectopic pregnancy was previous ectopic pregnancy in 4%, spontaneous abortion in 25%, PID in 5%, previous abdominal surgery in 11%, dilatation and curettage in 10%, TB in 35% cases, ART in 5% and infertility in 10%. The difference was significant ($P < 0.05$). **Conclusion:** Common risk factors for ectopic pregnancy was spontaneous abortion, previous ectopic pregnancy, ART, previous abdominal surgery and infertility.

INTRODUCTION

Implantation of a fertilised ovum outside the normal uterine cavity is called ectopic pregnancy. It is the major cause of maternal mortality during early pregnancy and accounts for 10% of all pregnancy-related deaths.^[1] Furthermore, it increases the chances of infertility as well as incidence of the subsequent ectopic pregnancy. The most common site of ectopic pregnancy is the fallopian tube, and the cause of zygote implanting into the tube is not always clear though it is postulated to be functional or anatomical tubal damage in most of the cases.^[2] At times, the condition can occur without any apparent predisposing factor. Incidence of ectopic pregnancy has been increasing but mortality has been declining continuously as many cases are diagnosed early and before rupture. The early diagnosis of ectopic pregnancy is due to improvement in non-invasive

techniques like transvaginal sonography and pregnancy tests in urine and serum.^[3]

The clinical presentation of ectopic pregnancy has changed from life threatening disease requiring emergency surgery to a benign condition and in asymptomatic women nonsurgical treatment options are available now. Numerous studies have attempted to explain the risk factors for EP.^[4] Accordingly, it is speculated that the main risk factors for EP are conditions or procedures, which can result in tubal damage. Despite these insights, much remains to be learned about these factors. For instance, the exact role and strength of these factors have not been definitively determined due to sample size problem or other design issues.^[5] Considering this, we performed this study assess cases of ectopic pregnancy.^[6-8]

MATERIALS AND METHODS

A sum total of eighty cases of ectopic pregnancy was included in this prospective, observational study. All were informed regarding the stud with their written consent. Ethical approval was also obtained before recruiting patients in the study. Patients with positive urine pregnancy test without any intrauterine gestational sac were diagnosed as ectopic pregnancy based on USG features of adnexal mass and/or intraperitoneal free fluid suggestive of haemoperitoneum. Demographic data of each patient was recorded. Parameters about blood group, parity, history of previous ectopic pregnancy, previous abdominal

surgery, history of dilatation and curettage, pelvic inflammatory disease, usage of intrauterine device, demographic features, risk factors, clinical features at presentation such as bleeding per vagina, amenorrhea, pain abdomen and shock, diagnostic methods and site of ectopic pregnancy was recorded. Results were analysed statistically with p value significant below 0.05.

RESULTS

Age group 18-28 years had 24, 28-38 years had 48 and >38 years had 8 patients. The difference was significant ($P < 0.05$) [Table 1].

Table 1: Distribution of patients based on age group.

Age group (years)	Number	P value
18-28	24	0.05
28-38	48	
>38	8	

Table 2: Assessment of parameters

Parameters	Clinical features	Number	P value
Symptoms	Bleeding pv	54	0.92
	Amenorrhea	65	
	Pain abdomen	34	
	Syncope	20	
	vomiting	14	
	Fever	47	
	Passage of clots	15	
Signs	Fullness in fornix	34	0.05
	Abdominal tenderness	11	
	Abdominal distension	12	
	Adnexal mass	5	
	Cervical motion tenderness	8	
Parity	0	34	0.65
	1	40	
	>2	6	
Education	Primary	40	0.05
	Secondary	22	
	Degree	18	
Laparoscopic procedure	Lap LPSE (Laparoscopic Left partial Salpingectomy)	2	0.72
	Lap RSO (Laparoscopic Right Salpingo-oophorectomy)	4	
	Lap LSOS (Laparoscopic Left Salpingostomy)	3	
	Lap LSE (Laparoscopic Left Salpingectomy)	1	

Table 3: Assessment of risk factors.

Risk factors	Percentage	P value
Previous ectopic pregnancy	4%	0.05
Spontaneous abortion	25%	
PID	5%	
Previous abdominal surgery	11%	
Dilatation and curettage	10%	
TB	35%	
ART	5%	
Infertility	10%	

Common symptoms were bleeding pv in 54, amenorrhea in 65, pain abdomen in 34, syncope in 20, vomiting in 14, fever in 47 and passage of clots in 15 patients. Common signs were fullness in fornix in 34, abdominal tenderness in 11, abdominal

distension in 12, adnexal mass in 5 and cervical motion tenderness in 8 cases. Parity was 0 in 34, 1 in 40 and >2 in 6 cases. Education was primary in 40, secondary in 22 and degree in 18 cases. Laparoscopic procedure performed was Lap LPSE (Laparoscopic

Left partial Salpingectomy) in 2, Lap RSO (Laparoscopic Right Salpingo-oophorectomy) in 4, Lap LSOS (Laparoscopic Left Salpingostomy) in 3 and Lap LSE (Laparoscopic Left Salpingectomy) in 1. The difference was significant ($P < 0.05$) [Table 2].

Common risk factors for ectopic pregnancy was previous ectopic pregnancy in 4%, spontaneous abortion in 25%, PID in 5%, previous abdominal surgery in 11%, dilatation and curettage in 10%, TB in 35% cases, ART in 5% and infertility in 10%. The difference was significant ($P < 0.05$) [Table 3].

DISCUSSION

Prevalence of ectopic pregnancy is 1–3% worldwide. Ectopic pregnancy is the leading cause of pregnancy related deaths in the first trimester.⁶ The possible causes of increase in incidence of ectopic pregnancy are pelvic inflammatory disease (PID), use of intrauterine contraception device (IUCD), tubal surgical procedures, induced abortion followed by infections, increasing age, smoking etc.⁷ Although women with ectopic pregnancy frequently have no identifiable risk factors, a prospective case-controlled study has shown that increased awareness of ectopic pregnancy and a knowledge of the associated risk factors helps identify women at higher risk in order to facilitate early and more accurate diagnosis.⁸ Most risk factors are associated with risks of prior damage to the Fallopian tube.⁹ These factors include any previous pelvic or abdominal surgery, and pelvic infection. Chlamydia trachomatis has been linked to 30–50% of all ectopic pregnancies.^{10,11} Considering this, we performed this study assess cases of ectopic pregnancy.

Our results showed that Age group 18–28 years had 24, 28–38 years had 48 and >38 years had 8 patients. Tak et al,¹² assessed the risk factors, clinical features at presentation, diagnostic tools, management modalities and outcome of ectopic pregnancies in 90 cases of ectopic pregnancies. Majority of the patients belonged to 21–30 years age group. Maximum number of cases (57%) had a history of previous abdominal pelvic surgery. The predominant symptom was amenorrhea (96.6%) and classical triad of amenorrhea, bleeding per vagina and abdominal pain was seen in 30% of the study population. Majority of the patients (76.7%) underwent surgical intervention. Barnhart et al,¹³ found that most common age group at presentation was 21–30 years. History of previous abdominal surgery being the most important risk factor whereas amenorrhea was the most common symptom. Surgical intervention was the main mode of management in ruptured ectopic pregnancy.

Common symptoms were bleeding pv in 54, amenorrhea in 65, pain abdomen in 34, syncope in 20, vomiting in 14, fever in 47 and passage of clots in 15 patients. Common signs were fullness in fornix in 34, abdominal tenderness in 11, abdominal distension in 12, adnexal mass in 5 and cervical

motion tenderness in 8 cases. Moini et al,¹⁴ identified potential risk factors for EP and to evaluate the contribution of the risk factors associated to EP. The findings reveal that the following factors were associated with increased risk of EP, including: Maternal age (odds ratio [OR] = 1.11, confidence interval [CI] [1.06–1.16], $P < 0.0001$), spouse's cigarette smoking (OR = 1.73, CI [1.05–2.85], $P = 0.02$), gravidity (OR = 1.50, CI [1.25–1.80], $P < 0.0001$), prior spontaneous abortions (OR = 1.93, CI [1.11–3.36], $P = 0.01$), history of EP (OR = 17.16, CI [1.89–155.67], $P = 0.01$), tubal blockage (OR = 10.85, CI [2.02–58.08], $P = 0.01$), use of intrauterine device (IUD) (OR = 4.39, CI [1.78–10.81], $P = 0.001$), tubal damage (OR = 2.704, CI [1.26–5.78], $P = 0.01$), first pregnancy interval (OR = 1.01, CI [1.00–1.02], $P < 0.0001$) and history of infertility (OR = 6.13, CI [2.70–13.93], $P < 0.0001$).

Parity was 0 in 34, 1 in 40 and >2 in 6 cases. Education was primary in 40, secondary in 22 and degree in 18 cases. Laparoscopic procedure performed was Lap LPSE (Laparoscopic Left partial Salpingectomy) in 2, Lap RSO (Laparoscopic Right Salpingo-oophorectomy) in 4, Lap LSOS (Laparoscopic Left Salpingostomy) in 3 and Lap LSE (Laparoscopic Left Salpingectomy) in 1. Parashi et al,¹⁵ determined the main risk factors of ectopic pregnancy in a sample of Iranian women. They included 150 cases and 300 controls and to compare them by the following factors: socio-demographic characteristics, contraceptive methods, prior tubal surgery, tubal pathology, prior ectopic pregnancy, prior caesarean section, prior abortion, prior infertility, and prior abdominal/pelvic surgery. The case and control groups were significantly similar in term of education and parity. There was an association between ectopic pregnancy and age which was disappeared after controlling for the main risk factors. There was no statistically significant relation between ectopic pregnancy and prior tubal surgery, tubal pathology, prior abortion, prior infertility, assisted reproductive technology, and oral contraceptive method ($p > 0.05$). However, there was a significant association between prior ectopic pregnancy, prior tubal ligation, use of intrauterine device, and prior abdominal/pelvic surgery with ectopic pregnancy ($p < 0.05$). The risk of ectopic pregnancy increased with the use of intrauterine device and tubal ligation, whereas decreased with use of oral contraception.

Common risk factors for ectopic pregnancy was previous ectopic pregnancy in 4%, spontaneous abortion in 25%, PID in 5%, previous abdominal surgery in 11%, dilatation and curettage in 10%, TB in 35% cases, ART in 5% and infertility in 10%. Tuomivaara and Ronnberg,¹⁶ have evaluated 929 infertile couples regarding ectopic pregnancy. Their findings showed the rate values of 46% and 9% for conception and ectopic pregnancies, respectively, indicating strongest association between a current ectopic pregnancy and a previous ectopic pregnancy (9.9-fold risk).

CONCLUSION

Common risk factors for ectopic pregnancy was spontaneous abortion, previous ectopic pregnancy, ART, previous abdominal surgery and infertility.

REFERENCES

1. Arora R, Rathore AM, Habeebullah S, Oumachigui A. Ectopic pregnancy—changing trends. *J Indian Med Assoc.* 1998;96(2):53–7.
2. Tay JI, Moore J, Walker JJ. Ectopic pregnancy. *West J Med.* 2000;173(2):131–4.
3. Gracia CR, Barnhart KT. Diagnosing ectopic pregnancy: decision analysis comparing six strategies. *Obstet Gynecol.* 2001;97(3):464–70.
4. Jophy R, Thomas A, Mhaskar A. Ectopic Pregnancy- 5 years experience. *J Obstet Gynecol India.* 2002;54(4):55–8.
5. Hillis SD, Owens LM, Marchbanks PA, Amsterdam LE, Kenzie WM. Recurrent chlamydial infections increase the risks of hospitalization for ectopic pregnancy and pelvic inflammatory disease. *Am J Obstet Gynecol.* 1997;176(1):103–7.
6. Savitha D. laparoscopic management of ectopic pregnancy. *J Obstet Gynaecol India.* 2000;50(69).
7. Henderson DN, Bean JLM. Early extrauterine pregnancy. *Am J Obstet Gynecol.* 1950;59(6):1225–35.
8. Alkatout I, Honemeyer U, Strauss A, Tinelli A, Malvasi A, Jonat W. Clinical diagnosis and treatment of ectopic pregnancy. *Obstet Gynecol Surv.* 2013;68(8):571–81.
9. Fernandez H, Coste J, Job-Spira N. Controlled ovarian hyperstimulation as a risk factor for ectopic pregnancy. *Obstet Gynecol.* 1991;78(4):656–659.
10. Bouyer J, Coste J, Shojaei T, Pouly JL, Fernandez H, Gerbaud L, et al. Risk factors for ectopic pregnancy: a comprehensive analysis based on a large case-control, population-based study in France. *Am J Epidemiol.* 2003;157(3):185–194.
11. Coste J, Job-Spira N, Fernandez H, Papiernik E, Spira A. Risk factors for ectopic pregnancy: a case-control study in France, with special focus on infectious factors. *Am J Epidemiol.* 1991;133(9):839–849.
12. Tak BM, Kim KM, Ryu HK, Yang KS, Chung HS. A clinical study on ectopic pregnancy. *Korean J Obst Gynecol* 1998; 41: 819. 1998;28.
13. Barnhart K, Sammel MD, Chung K, Zhou L, Hummel AC, Guo W. Decline of serum human chorionic gonadotropin and spontaneous complete abortion: defining the normal curve. *Obstet Gynecol.* 2004;104(5):975–81.
14. Moini A, Hosseini R, Jahangiri N, Shiva M, Akhoond MR. Risk factors for ectopic pregnancy: A case-control study. *Journal of research in medical sciences: the official journal of Isfahan University of Medical Sciences.* 2014 Sep;19(9):844.
15. Parashi S, Moukha S, Ashrafi M. Main risk factors for ectopic pregnancy: a case-control study in a sample of Iranian women. *International journal of fertility & sterility.* 2014 Jul;8(2):147.
16. Tuomivaara L, Rönnerberg L. Ectopic pregnancy and infertility following treatment of infertile couples: a follow-up of 929 cases. *Eur J Obstet Gynecol Reprod Biol.* 1991;42(1):33–38.