ORIGINAL RESEARCH PAPER

Volume-7 | Issue-9 | September-2018 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

RISK OF ECTOPIC PREGNANCY ASSOCIATED WITH TREATMENT OF INFERTILITY

Gynecology

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ABSTRACT

OBJECTIVE—To assess incidence and risk factors of ectopic pregnancy and comparing across various obstetrical factors including women with or without treatment of infertility.

METHODS— It was a cross sectional observational study at out patients department of obstetrics and Gynaecology, Kalinga Institute of Medical Science (KIMS) college and Hospital Bhubaneswar Odisha,. Included patients were requested to complete a questionnaire about their socio-demographic data sheet and obstetric history.

RESULTS—The rate of ectopic pregnancy 2.0% sample consisted of 61 ectopic pregnancy and we selected 100 non ectopic control group, the mean age of the non ectopic sample was 28.88 years (± 4.45 years), whereas the mean age for ectopic pregnancy was 29.60 years (±5.14 years). Treatment history of infertility was found to be significantly associated with ectopic pregnancy (29.50%), compared to 10% of non ectopic pregnancies.

CONCLUSION—Prevalence of ectopic pregnancy is found to be 2.03%, and "Treament history for infertility in past" is the significant risk factor for it.

KEYWORDS

Ectopic; Pregnancy; Infertility.

INTRODUCTION

Ectopic pregnancy refers to the implantation of a fertilized egg in an abnormal location outside the uterine cavity, usually in the fallopian tubes and occasionally in the other parts like ovary or cervix [1]. Ectopic pregnancy is one of the leading causes of maternal morbidity and the prevalence of ectopic pregnancy among general population is 1–2 %, where as it is slightly higher among patients who have utilized assisted reproductive technology [2].

Early suspicion and identifying risk factors is the key for diagnosis and management, risk factors for ectopic pregnancy includes tubal damage following infections or any surgical traumas, altered tubal motility, history of infertility, history of previous ectopic pregnancy, high maternal age and smoking [3-5]. Therefore, any potential risk factor for ectopic pregnancy is of significant concern for early possible diagnosis and to reduce morbidity and mortality. Among these factors surgical procedure and like previous caesarian section and assisted reproductive technology are well known. But the question is whether receiving medication for infertility is a risk factor for ectopic pregnancy.

MATERIALS AND METHOD

The aim of the present study was to assess the risk of ectopic pregnancy following being treated for infertility. This study was conducted at out patients department of obstetrics and Gynaecology, Kalinga Institute of Medical Science (KIMS) college and Hospital Bhubaneswar Odisha, which is a tertiary care medical college hospital of Odisha, India. The study protocol was approved by the institutional review board of Kalinga Institute of Medical Science (KIMS) college and Hospital Bhubaneswar Odisha. It was a cross-sectional study carried out over a twenty four months period (feb 2016 to feb 2018). All consenting women who attended this hospital for antenatal check up or confinement were recruited. All recruited subjects who satisfied the inclusion criteria for the study, presence of any major co morbid medical or other illness was kept as exclusion criteria. Included patients were examined clinically after taking detailed history and their socio demographic variables. They were requested to complete a questionnaire about their socio-demographic data Obstetric history and the socio-economic status were obtained.

TOOLS

Socio-demographic Data Sheet: The socio demographic data sheet included age, religion, occupation, education and clinical information like duration of pregnancy and other obstetric history.

Procedure: It was a cross sectional observational study. All subjects were assessed for inclusion – exclusion criteria, and on qualification they were requested to fill up Socio-demographic data sheet or asked verbally and filled up by investigators.

Statistical Analysis:

The collected data of all patients was statistically analyzed, using Statistical Package for Social Sciences (SPSS, Inc., Chicago, Illinois) version 10.0. Data analysis included means and standard deviations for grouped sample and t test were used for mean comparison. Frequency analysis was used for categorical data, and chi square test was done for group comparison.

RESULTS

A total of 161 subjects were included for the study, categorical distribution of sample size of 100 was collected for non ectopic pregnancy as control, where as 61 was the sample size for ectopic pregnancy. The data was collected from february 2016 to feb 2018 from department of obstetrics and Gynaecology, Kalinga Institute of Medical Science (KIMS) college and Hospital Bhubaneswar Odisha. Usual ANC visit is around 30 new patients/OPD/week, resulting in screening of about 3000 patients, thus a prevalence of ectopic pregnancy can be estimated as 2.03 % . Table 1 summarizes the sample characteristics. The mean age of the non ectopic sample was 28.88 years (± 4.45 years), whereas the mean age for ectopic pregnancy was 29.60 years (±5.14 years) (t value -.947, df= 159, p value = .345).

Most of the sample was primigravida ie 41 and 26 respectively for non ectopic pregnancy and ectopic pregnancy, there was no statistically difference between the groups. Similarly regarding past history of abortion was positive with 10 out of 100, and 6 out of 61 respectively for non ectopic pregnancy and ectopic pregnancy group (t value -.178, df= .3, p value = .981). There was clinical past history of caesarean for 19 and 11 sample size respectively as most of the sample was primigravida. Treament history for infertility in past was main variable to compare across the experimental and control group, the positive treatment history of infertility was present in 18 out of 61 (29.50%) among the group of ectopic pregnancy; whereas among the

non ectopic pregnancy there was only 10 % positive history of infertility treatment (chi sequqre value = 10.036, df= 1, p value = .002).

DISCUSSION

We found a 2.03% of incidence of ectopic pregnancy, It is found in accordance with many other studies reporting similar incidence for ectopic pregnancy ranges between 1-2 % [2]. We found prevalence of ectopic pregnancy in ours sample on slightly higher side of this range of these referenced studies. Many of earlier studies reported increased risk of ectopic associated with age [3]. In ours study we measured the mean age of the sample was 29.15 years. However the mean age for ectopic group was 29.60 ± 5.14 and for non ectopic group was 28.88 ± 4.45, but it was not upto statistically significant difference level on t test (t= -.947; p value .345). Even categorical above and below 30 years does not reveals any distribution difference on pearson chi square tests (Table 1). There are conflicting role of age in the incidence of ectopic pregnancy across previous studies. Therefore, a physiological impact of advanced maternal age, which may increase the risk of ectopic pregnancy, is not established yet [3].

The results of the present study showed there is no relation of incidence of ectopic pregnancy and status of primigravida or multigravida, and with prior history of abortion. This finding is in concordance to a meta analytic study finding no significant association between spontaneous abortion and ectopic pregnancy [5]. However few studies found contradictory findings like Bouyer et al. [3], they found a strong relation between incidence of ectopic pregnancy and abortion, especially with three or more spontaneous abortion. Few other studies implicate induced abortion as risk factors for incidence of ectopic pregnancy [6].

We found increased risk of ectopic pregnancy associated among women who received treatment for infertility (especially with clomiphene citrate). this finding is in concordance to many similar studies [7-9]. but it is difficult to separate the effects of fertility treatment, especially ovulation induction, from those of infertility itself [8]. The associations between ectopic pregnancy and infertility may be complicated, as ectopic pregnancy may be the actual cause of infertility for some cases, or it may be a consequence of infertility [8-9]. There can be other factors common to both infertility and to ectopic pregnancy risk.

In future we need larger samples size, along with a matched control group, simultaneous assessment of quality of life, disability and burden of various other physical and Obstetrical problems, and follow-up studies to know the longitudinal course of these problems.

CONCLUSION:

This study finds a prevalence of ectopic pregnancy as 2.03% among 3000 pregnant females. "Treament history for infertility in past" may be considered as significant risk factor as it was significantly higher (29.50%) among the group of ectopic pregnancy, compared to 10 % among non ectopic pregnancies.

TABLE 1. : Comparison of Sociodemographic and clinical variables of the sample across group of Non Ectopics and Ectopics.

		Non Ectopics n=100	Ectopics n= 61	t test	df	p value
Age		28.88 ± 4.45	29.60 ± 5.14	-.947	159	.345
				chi square		
Age category	above 30 yrs	54	27	1.437	1	.258
	below 30 yrs	46	34			
Gravida	1	41	26	.103	4	.999
	2	29	18			
	3	23	13			
	4 and more	7	4			
H/O Abortion	0	90	55	.178	.3	.981
	1	5	3			
	2-3	5	3			
H/O Caesarean	0	81	50	.039	.2	.981
	1	17	10			
	2	2	1			
T/T H/O infertility	no	90	43	10.036	1	.002*
	yes	10	18			

ACKNOWLEDGEMENTS: NIL

13. DECLARATION OF INTEREST: "The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this paper."

REFERENCES

1. Bouyer J, Coste J, Fernandez H, Pouly JL, Job-Spira N: Sites of ectopic pregnancy: a 10 year population-based study of 1800 cases. Hum Reprod 2002, 17(12):3224–3230.
2. Barnhart K. Ectopic pregnancy. N Engl J Med. 2009;361:379–87.
3. Bouyer J, Coste J, Shojaei T, Pouly JL, Fernandez H, Gerbaud L, Job-Spira N: 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.
4. Karaer A, Avsar FA, Batioglu S. Risk Factors for ectopic pregnancy a case- control study. Aust NZ Obstet Gynaecol. 2006:46:521-7.
5. Ankum WM, Mol BW, Van der Veen F, Bossuyt PM: Risk factors for ectopic pregnancy: a meta-analysis. Fertil Steril 1996, 65(6):1093–1099.
6. Coste J, Fernandez H, Joyé N, Benifla J, Girard S, Marpeau L, et al. Role of chromosome abnormalities in ectopic pregnancy. Fertil Steril. 2000; 74(6): 1259-1260.
7. Bernoux A, Job-Spira N, Germain E, Coste J and Bouyer J (2000) Fertility outcome after ectopic pregnancy and use of an intrauterine device at the time of the index ectopic pregnancy. Hum Reprod 15, 1173–1177.
8. Yang C-P, Chow WH, Daling JR, Weiss NS and Moore DT (1987) Does prior infertility increase the risk of tubal pregnancy? Fertil Steril 48, 62–66.
9. Ory SJ, Nnadi E, Herrmann R, O'Brien PS and Melton LJ (1993) Fertility after ectopic pregnancy. Fertil Steril 60, 231–235.