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Original Research Article

A Retrospective Analysis on Ectopic Pregnancy: A One Year Study

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Abstract: Ectopic pregnancy means the presence of pregnancy outside the normal uterine cavity. Ectopic pregnancy is a common life threatening emergency in first trimester of pregnancy and it leads to serious maternal morbidity and also can cause mortality. Over the last few decades, the incidence of ectopic pregnancy has increased almost to the extent of an epidemic disease. Aim of study was to determine the incidence, clinical presentation, risk factors, treatment and morbidity and mortality associated with ectopic pregnancy. This is retrospective analysis conducted at Government medical college and hospital, Udaipur, Rajasthan from January 2015 to January 2016, in this duration there were a total 93 cases reported with ectopic pregnancy ,were admitted at our hospital through emergency or outpatient department. All datas were collected from case record of patients. The incidence of ectopic pregnancy was 4.86 per thousand of deliveries. Maximum (64.51%) cases were in the age group of 21 to 30 years and most of cases (34.40%) were primigravidae. The commonest site of ectopic pregnancy was in ampullary region (52.68%). All patients underwent exploratory laparotomy. Majority 79 (84.94%) cases underwent total salpingectomy. Ectopic pregnancy causes significant morbidity to the mother and hence requires a high index of suspicion so that diagnosis can be made early and also to prevent complications and preserve the future reproductive function of the patient.
Keywords: Ectopic gestation, primigravida, previous LSCS, Exploratory laparotomy

INTRODUCTION

An ectopic pregnancy is one in which the fertilized ovum becomes implanted in a site other than the normal uterine cavity. It is the most important cause of maternal mortality and morbidity in the first trimester [1]. Worldwide, ectopic pregnancy complicates 0.25-2.0% of all pregnancies [2]. Its incidence is increasing and has been rise from4.9/1000 pregnancies in 1970 to 9.6/1000 pregnancies in 1992 [3].

The rising incidence of ectopic pregnancy in the past few years is due to a number of risk factors which include pelvic inflammatory disease, infertility, intrauterine contraceptive device, tubal surgeries, assisted reproductive techniques and availability of better diagnostic techniques. Chlamydia trachomatis has been linked to 30-50% of all ectopic pregnancies [4, 5].

The most common site of ectopic implantation is the Fallopian tube. Other sites such as the abdomen, ovary, or cervix are far less common but are associated with higher mortality. 98 % are in various part of the fallopian tube and out of these, 70 % are in the ampullary region, 12 % isthmic, 11.1 % fimbrial, 3.2 % ovarian, 2.4 % interstitial, and 1.3 % in the abdominal cavity [6].

Classic triad of pain abdomen, amenorrhea and vaginal bleeding are present in only 50% of the cases. 40-50% of the cases present with only vaginal

bleeding. Diagnosis can be made by Ultrasonography, serum βhCG, although the 'gold standard' is laparoscopy. Management of the cases depends on the clinical presentation, site of the ectopic and need for future reproductive function. Management can be medical as well as surgical [7].

The present study analyses the incidence, clinical presentation, risk factors, diagnosis, management and maternal morbidity and mortality of ectopic pregnancy.

MATERIAL AND METHODS

This was a retrospective analysis conducted at Government medical college and hospital, Udaipur, Rajasthan from January 2015 to Jan 2016, in one year period, there were a total 93 cases reported with ectopic pregnancy ,were admitted at our hospital through emergency or outpatient department. All data were collected from case record of patients. Information regarding the total number of deliveries in the study period, details of demographic characteristics, clinical symptoms and signs, diagnostic tools used, treatment, risk factors for the ectopic pregnancy as well as associated morbidity and mortality were obtained. All the relevant information were entered in a proforma prepared by the author which in turn analysed after entering in the excel sheets using descriptive analysis.

RESULTS

We conducted the study over a period of one year. The total numbers of deliveries were 19127. The total number of ectopic pregnancies turned out to be 93. It gave an incidence of .486% or 4.86 per 1000 deliveries and 5.04 per 1000 live birth. In all cases urine pregnancy test done for provisional diagnosis. Ultrasonography helped in 82 cases in diagnosing ectopic pregnancies.

Table1: Distribution of cases according to age and parity.

Age group	No of cases	Percentage(%)	Parity	No of cases	Percentage(%)
≤20	03	3.22%	P_0	16	17.20%
21-25	22	23.65%	P_1	32	34.40%
26-30	38	40.86%	P_2	30	32.25%
31-35	20	21.50%	P_3	12	12.90%
>35	09	9.67%	$>p_3$	03	3.22%

A majority of patients (64.51%) belonged to the age group of 21-30yrs. 17.20% cases were nulliparous, 34.40% with parity one, 32.25% cases with parity two and 12.90% cases with parity three (table 1).

Table 2: Distribution of cases according to clinical features.

Clinical features	Number of cases	Percentage
Amenorrhea	71	76.34%
Bleeding per vaginum	52	55.91%
Pain abdomen	77	82.79%
Abdominal tenderness	23	24.73%
Cervical movement tenderness	21	22.58%
Forniceal tenderness	39	41.93%
Adnexal mass	31	33.33%
Shock	17	18.27%

In our study 82.79% cases presented with pain abdomen and 76.34% presented with amenorrhea. 55.91% of the cases presented with bleeding per vagina. A classical triad of ectopic pregnancy (pain, amenorrhea and bleeding per vagina) seen in 41(44.08%) cases. Abdominal tenderness observed in 24.73% of cases, cervical tenderness in 22.58%, forniceal terderness in 41.93% and adnexal mass in 33.33% cases while shock was observed in 18.27% of patients (table2).

Table 3: Distribution of cases according to predisposing factor

Predisposing factors	Number of cases	Percentage(%)

Pelvic inflammatory disease	15	16.12%
Previous abortion	09	9.67%
Previous L.S.C.S.	09	9.67%
Tubal surgery	04	4.30%
Previous ectopic	04	4.30%
Infertility treatment	05	5.37%
IUCD insertion	01	1.07%
H/O T.B.	01	1.07%

On evaluation of risk factors, it was found that 48(51.61%) had predisposing factor which included history of pelvic inflammatory disease (PID) in 15 (16.12%), previous abortion in 9 (9.67%) cases, previous cesarean in 9(9.67%) cases, history of infertility treatment in 5 (5.37%) cases, previous ectopic in 4 (4.30%) cases, tubal surgery in 4 (4.30%) , IUCD insertion in 1 case and history of tuberculosis in 1 case (table 3).

Table 4: Distribution of cases according to side and site of ectopic pregnancy.

Side of ectopic	**Number of cases**	**Percentage(%)**
Right	54	58.06%
Left	38	40.86%
Site of ectopic pregnancy	**Number of cases**	**Percentage(%)**
Tubal	87	93.54%
Ampullary	49	52.68%
Isthmus	16	17.20%
Fimbrial	12	12.90%
Cornual	10	10.75%
Ovarian	4	4.30%
Rudimentary horn	1	1.07%
Abdominal pregnancy	1	1.07%

Right sided ectopic 54 (58.06%) were more common than left side 38 (40.86%). Table 4 depicts that incidence of tubal ectopic was maximum which was 87 (93.54%) cases out of 93 cases of ectopic pregnancy. Among tubal ectopic pregnancy the most common site was ampulla 49 (52.68%) cases followed by isthmus (17.20%), fimbrial (12.90%), cornual (10.75%). Six cases were at extra tubal site, i.e., 4 cases were ovarian ectopic, one case was in rudimentary horn and one case was abdominal pregnancy.

Table 5: Distribution according to operative findings on laparotomy.

Operative finding	**Number**	**Percentage**
Unrupture	13	13.97%
Rupture	55	59.139%
Tubal abortion	11	11.82%
Chronic ectopic	13	13.97%
Abdominal pregnancy	1	1.07%

Table 5 shows the operative findings on laparotomy. There was ruptured ectopic in 55 (59.13%), chronic ectopic in 13 (13.97%), unrupture ectopic pregnancy in 13 (13.97%) cases and one case was abdominal pregnancy.

Table 6: Distribution of cases according to type of surgery done to the patient

Procedure	**Number of cases**	**Percentage**

UnilateralSalpingectomy	79	84.94%
Salpingoophorectomy	08	8.60%
Oophorectomy	04	4.30%
Hysterectomy	01	1.07%

All patients underwent open exploratory laparotomy because of non availability of laparoscopy in our institute. In our study majority of cases underwent unilateral salpingectomy 79 (84.94%) cases followed by salpingoophorectomy done in 8 (8.60%) cases and oophorectomy done in 4 (4.30%) cases. In one case who had rupture cornual pregnancy, hysterectomy was performed. (table 6)

Table 7: Distribution of cases according to Hemoperitoneum

Amount of hemoperitoneum	Number of cases	Percentage(%)
No hemoperitoneum	15	16.12%
<500 ml	33	35.48%
500-1000 ml	32	34.40%
>1000 ml	13	13.97%

Table 7 show that 33 (35.48%) cases in which amount of hemoperitoneum < 500ml and ≥500ml of hemoperitoneum in 45 (48.38%) cases.

Table 8 gives an idea about the morbidity associated with ectopic pregnancy. Blood transfusion needed in 76 (81.72%) cases. Wound gaping present in 5 (5.37%) cases. 7 cases needed intensive care unit admission in post operative period. Mortality associated with ectopic pregnancy seen in 2 cases in which one case who had rupture cornual pregnancy and one case with abdominal pregnancy.

Table 8: Morbidity and mortality associated with ectopic pregnancy

	Number of cases	Percentage
Blood transfusion	76	81.72%
Wound complication	5	5.37%
Require ICU admission	7	7.52%
Mortality	2	2.15%

DISCUSSION

Ectopic pregnancy is a common obstetrical disorder in early pregnancy all over the world that remains an important cause of maternal mortality and morbidity. In India the incidence of ectopic pregnancy reported by the Indian council of medical research (ICMR 19990) task force in their multicentric case control study was 3.12 per 1000 pregnancies or 3.86 per 1000 live births in the hospital reported pregnancies [8]. In our study group the incidence of ectopic pregnancies was 4.86 per 1000 deliveries and 5.04 per 1000 live birth. In a study conducted by Shraddha shetty K, Anil shetty 5.6/1000 delivery [9]. In a study conducted by RashmiGaddagi and AP Chandrashekhar, the incidence was 1:399 pregnancies [10].

In our study 64.51% patients belonged to age group of 21 to 30 years. Similar results were found in Khaleeque *et al* study [11]. Majority of patients i.e. 34.40% patients in the present study were primigravida. Morice *et al* in their study found that in nulliparous women were 2.6 times more likely to have an ectopic pregnancy after one year of unprotected intercourse [12]. A Kolkata based study too revealed the primigravida to be most of the cases [13].

In present study pelvic inflammatory disease, previous abortion, previous LSCS, tubal surgery are strongest risk factors associated with the occurrence of ectopic pregnancy. In the present study group history of pelvic inflammatory disease was present in 16.12% of the cases with ectopic pregnancy. This is correlating with the study done by Bhavna, *et al* 22.7% of the cases with ectopic pregnancy [14]. In this study 9.67% patients had history of abortion. Ankum *et al* 1996 found that there is a slight increase of ectopic conception in women with previous abortions [15]. 9.67% cases in present study had history of LSCS. In a similar retrospective study by Shetty *et al*, only 9% patients with ectopic gestation had history of previous

LSCS [9]. In studies by Chi *et al*, Cheng *et al* found that the risk of tubal pregnancy after sterilization is between 5-16% where as in the present study the rate was 4.30% [16]. In present study, previous ectopic pregnancy found in 4.30% with comparable results in study carried by Yakasai *et al* (4.95%). which is consistent with the hypothesis that women with previous ectopic pregnancy has greater proclivity toward a subsequent ectopic pregnancy [17]. In our study group, 5.37% of the women with ectopic pregnancy were history of infertility treatment which is correlating with the studies done by Panchal D, *et al* (11.66%) [18]. History of tuberculosis found in only one case. One patient using IUCD as a method of contraception. IUCD has no effect on ovulation, it prevents intrauterine pregnancy but not tubal and ovarian pregnancy [9]. The risk of tubal pregnancy is more if a woman conceives with IUCD in situ.

Most common presenting symptom was pain in abdomen which was seen in 82.79% cases followed by history of amenorrhea (76.34%), bleeding per vagina(55.91%) were similar with Shetty and Shetty(pain = 80.6%, amenorrhea = 77.4%) [9]. Bleeding per vaginum found in 55.91% cases which is comparable with a study by Yakasai *et al* (64.36%) [17]. Classical triad found in 44.08% cases which is comparable to Singh et al [19]. On clinical examination, it found that abdominal tenderness present in 24.73%, cervical movement tenderness in 33.33%, forniceal tenderness in 41.93%. In present study 18.27% of patients presented with features of shock which is almost similar to the study by Panchal D *et al* [18].

Right sided tubal pregnancy was present in 54(58.06%) cases and left tubal involvement in 38(40.86%) cases, consistent with other studies [5]. In the present study, tubal pregnancy found in 93.54% cases which is comparable to studies carried out by Yakasai *et al* (89.11%) [17]. Most of the patients had ampullary ectopic (52.68%) pregnancy which is consistent with studies from Khaleeque *et al* (58.9%) [11]. The incidence of isthmic pregnancy was 17.20%. Priti S Vyas *et al* also found 42.5% ectopic pregnancies in ampullary portion and 22.4% in isthmic [8]. Fimbria (12.90%) found the third most common site of tubal pregnancy with a similar result of Khaleeque *et al* (15.4%) [11]. Incidence of cornual pregnancy was(10.75%) comparable to Khaleeque *et al* (10.3%) [11]. Incidence of ovarian ectopic pregnancy was 4.30% comparable to Singh et al (4%) [19]. Our study also had one case of rudimentary horn pregnancy and one case of abdominal pregnancy.

Ruptured ectopic pregnancy was present in 59.13% cases, 13.97% had unruptured ectopic and tubal abortion in 11.82% cases. In Latchaw G *et al* study, tubal rupture was present in 59% cases and 41% had unruptured ectopic pregnancies [20]. Chronic ectopic pregnancy was found in 13.97% cases.

Since most of our patients were referred with established signs of ruptured tubal pregnancy, and hemodynamic compromise, they needed emergency laparotomy. 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. All patients underwent open exploratory laparotomy because of non availability of laparoscopy in our institute. The most frequent procedure in cases is unilateral total salpingectomy (84.94%), salpingoophorectomy in 8.60% of cases, the same finding described by Chinurgia in current trends [21]. Oophorectomy was done in 4.30% cases and Hysterectomy was done in one case with rupture cornual pregnancy.

Mortality associated with ectopic pregnancy seen in 2 cases in which one case who had rupture cornual pregnancy and one case with abdominal pregnancy in our study. Cornual area is well supplied by the Sampson artery which is connected to both the uterine and the ovarian arteries. The risk of maternal mortality is more with cornual pregnancy. Moreover, the diagnosis of cornual pregnancy is difficult as they are diagnosed relatively late around 7-12 weeks as myometrium at this region can undergo distension allowing the pregnancy to grow; and if at all cornual rupture occurs it leads to hypovolemia and shock due to profuse haemorrhage [22].

The mortality risk from abdominal pregnancy is 7.7 fold that of tubal pregnancy. Maternal morbidity may be due to bleeding, infection, toxemia, anemia, disseminated intravascular coagulation, or the formation of a fistula between the amniotic sac and intestine caused by penetration of fetal bone [23].

CONCLUSION

Ectopic pregnancy causes significant morbidity to the mother and hence requires a high index

of suspicion so that diagnosis can be made early. In the present study due to prompt diagnosis and management, maternal mortality was avoided in most of the cases . So by reducing and identifying the risk factors and early detection of ectopic pregnancy by ultrasonography to improve the prognosis so far as the morbidity and mortality and fertility are concern. In a center where laparoscopic facilities are not available, Laparotomy proceeded with salpingectomy can be a life saving procedure even in the present day scenario.

REFERENCES

1. Kumar P, Malhotra N. Ectopic pregnancy. Jefcoat's principles of Gynecology. 2008;142-59.
2. Thonneau P, Hijazi Y, Goyaux N, Calvez T, Keita N. Ectopic pregnancy in Conakry, Guinea. Bull World Health Organ 2002;80:365-70.
3. Royal College of London. Obstetricians and Gynecologists. Guideline No. 21 on the Management of Tubal Pregnancies. London: RCOG; 1999.
4. Chatterjee S, Dey S, Chowdhury RG. Ectopic pregnancy in previously infertile women-subsequent pregnancy outcome after laparoscopic management. Al A meen J Med Sci. 2009;2(1):67-72.
5. Udigwe GO, Umeononihu OS, Mbachu II. Ectopic pregnancy: a 5 year review of cases at Nnamdi Azikiwe university teaching hospital (NAUTH) Nnewi. Niger Med J. 2010;51:160-3
6. Bouyer J, Coste J, Fernandez H. Sites of ectopic pregnancy: a10 year population-based study of 1800 cases. Hum Reprod. 2002; 17:3224.
7. Department of Health: why mothers die: a confidential enquiry into the maternal deaths in United Kingdom. In Drife J, Lewis G (eds): Norwich, Uk: HMSO, 2001; 28.
8. Vyas PS, Vaidya P. Epidemiology, Diagnosis and management of ectopic pregnancy-an analysis of 196 cases.http://www.bhj.org/journal/2000_4203_jul00/original_458. htm.
9. Shetty S, Shetty A. A Clinical Study Of Ectopic Pregnancies. Ijmhs. 2014; 4(1):305-309
10. Gaddagi RA, Chandrashekhar AP. A Clinical Study of Ectopic Pregnancy. JCDR. 2012;6:867-869.
11. Khaleeque F, Siddiqui RI, Jafarey SN. Ectopic pregnancies: A Three year study. J Pak Med Assoc. 2001; 51:240–243.
12. Morice P, Dubuisson JB, Chapron C, De Gayffier A, Mouelhi T. Laparoscopic treatment of ovarian pregnancy. Gynecol Endo.1996; 5: 247–9.
13. Majhi AK, Roy N, Karmakar KS, Banerjee PK. Department of obstet. And gynecol. NRS Medical college, Kolkata. Passim Ectopic pregnancy – an analysis of 180 cases. J Indian Med Assoc. 20076 June;105(6);308,310, 312.
14. Gupta BK, Pathania BK, Jindal M, Vohra R, Ahmed M. Risk Factors For Ectopic Pregnancy; A case Control study in Tertiary care Centre, Journal of Dental and Medical Sciences. 2014;13(3):23-7.
15. Ankum WM, Mol BWJ, Van der Veen F, Bossuyt PMM. Risk-factors for ectopic pregnancy – a meta-analysis. FertilSteril. 1996; 65: 1093–9.
16. Chi IC, Potts M, Wilkens L. Rare events associated with tubal sterilizations: an international experience. Obstet Gynecol Surv. 1986; 41:7–19.
17. Yakasai IA, Abdullahi J, Abubakar IS. Management of ectopic pregnancy in Aminu Kano teaching hospital Kano Nigeria: A 3-year. Glob Adv Res J Med Med Sci. 2012;1:181-5.
18. Panchal D, Vasihanav G, Solanki K. Study of Management inpatient with Ectopic pregnancy. National journal of Integrated Research in Medicine. 2011;2(3):91-4.
19. Singh S, Mahendra G, Vijayalakshmi S, Pukale RS. Clinical study of ectopic pregnancy in a rural setup: A two year survey. Natl J Med Res. 2014;4:37-9.
20. Latchaw G, Takacs P, Gaitan L, Geren S, Burzawa J. Risk factors associated with the rupture of tubal ectopic pregnancy. GynecolObstet Invest. 2005; 60 (3):177-80.
21. Chirurgia (Bucur) Current trends in the treatment of ectopic pregnancy. 2008 Jan-Feb; 103(1)73-8.
22. Faraj R, Steel M. Review management of cornual (interstitial) pregnancy. Obstet Gynaecol. 2007;9:249-55.
23. Martin JN Jr, Sessums JK, Martin RW, Pryor JA, Morrison JC. Abdominal pregnancy: current concepts of management. Obstet Gynecol. 1988;71:549-557.