



Original Article

Experience with Ectopic Pregnancy in a Tertiary Care Teaching Hospital

NA Parveen¹, MM Sarker², MK Sarker³

Abstract

Ectopic pregnancy is a common life-threatening condition. Diagnosis is frequently missed and should be considered in any women in the reproductive age group presenting with abdominal pain or vaginal bleeding. This prospective observational study was conducted in RMCH to determine the incidence, risk factors, clinical presentation, treatment, morbidity and mortality associated with ectopic pregnancy. A total of 50 cases of ectopic pregnancy were operated during the study period giving the incidence of ectopic pregnancy of 8.02/1000 pregnancies. The age of the patient ranged from 18-37 years, with maximum (40%) between 26-30 years age group. 36% patients had delivered one child and 24% were nulliparous. 30% patients had pelvic inflammatory disease and 22% had history of previous abortion/ MR. All patients presented with lower abdominal pain, 68% presented with abnormal vaginal bleeding and 60% had amenorrhoea. Most of the patients were diagnosed by high clinical suspicion and confirmed by USG. 96% cases ectopic pregnancy occurred in the fallopian tube and ampullary part was mainly affected. Laparotomy followed by unilateral salpingectomy was performed in majority (60%) of cases. 22% cases ipsilateral salpingectomy with tubectomy other side and 12% cases salpingostomy were performed. The recovery of majority of patients was smooth and uneventful. There was no death in this study.

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Introduction

Ectopic pregnancy is a condition where in a fertilized ovum implants outside the normal uterine cavity¹. It is an important cause of maternal morbidity and mortality especially in developing countries where majority of the patients present to the clinician in a late life threatening state with altered and deteriorated hemodynamics². It is also a cause of fetal wastage and has been associated with recurrence and impairment of subsequent fertility³.

Etiology of ectopic pregnancy most of the times remains uncertain although multiple risk factors have been attributed for its occurrence. It is

observed that the frequency of ectopic pregnancy has been on an upstroke during last few decades owing to the increased incidence of venereal diseases, increased usage of contraceptives, short birth spacing interval and increased usage of assisted reproductive techniques⁴. Prior surgical interventions (laparotomy for previous ectopic pregnancy / tubectomy / cesarean section/ appendicectomy) may lead to tubal damage and increase the risk of further chances of ectopic pregnancy⁵.

Diagnosis of ectopic pregnancy is almost always being a challenging task as the condition is complicated by a bizarre spectrum of clinical

¹ Medical officer, Rajshahi Medical College Hospital, Rajshahi.

² Senior Consultant, Department of Surgery, Rajshahi Medical College Hospital, Rajshahi.

³ Assistant Professor, Department of Gastro-enterology, Rajshahi Medical College, Rajshahi.

presentations ranging from asymptomatic cases to acute abdomen to hemodynamic shock⁶. Hence it is imperative to take accurate history, conduct meticulous physical examination along with judicious use of available diagnostic techniques for diagnosis and management of this condition. Thanks to advances in modern medical technology such as radio-immunoassay of β -HCG, Ultrasonography and diagnostic laparoscopy which made diagnosis comparatively easier⁷.

To preserve the maternal life and future fertility of the patient, high index of suspicion, early and accurate diagnosis, immediate and skillful surgery and moral responsibility remains the cornerstone of management of ectopic pregnancy⁸.

Material and Methods

This prospective observational study was carried out in Obstetrics and Gynaecology department of Rajshahi Medical College Hospital, Rajshahi during the period from November 2007 to April 2009. A total 50 consecutive patients, who were clinically suspicious of ectopic pregnancy, also were supported by positive urine pregnancy test or serum β -HCG and USG reveals no intrauterine gestational sac were included in this study. Patients who were clinically suspicious but laparotomy findings ruled out ectopic pregnancy were excluded.

Detailed history and clinical examinations were done and the findings were recorded in the predesigned data collection sheet. The parameters pertaining to the cases of ectopic pregnancies studied include age and parity distribution, symptoms at presentation, associated risk factors and site of ectopic pregnancy, laterality, tubal status, condition of opposite tube, surgical intervention, admission to surgery interval and blood transfusions. The collected data was tabulated and analyzed using appropriate statistical methods.

Results and Observations

We conducted the study during the period from November 2007 to April 2009. The total numbers of pregnancies were 6228. Total number of ectopic pregnancies turned out to be 50. It gave an incidence of 0.802% or 8.02 per 1000 pregnancies. The maximum numbers of patients (40%) were in

the age group of 26 to 30 years, though 10% (5 cases) were teenagers (Table-1). Table-2 shows that ectopic pregnancy is closely related with low parity. 18 cases (36%) had only para 1, 12 cases (24%) had para 0 and only 5 cases (10%) had para >3. The most common risk factor present in patients was PID, seen in 30% of the cases in our series. No risk factor could be identified in a significant number of patients accounting for 8 (16%) of the cases. All the cases presented with abdominal pain as chief complaint, followed by bleeding per vaginum (68%) and amenorrhoea (60%). The classic triad of ectopic pregnancy comprising of pain abdomen, bleeding per vaginum and history of amenorrhoea were noticed in 60% of the cases.

Table-1: Age group distribution (n=50).

Age Group (years)	No.	(%)
<20	05	10%
21-25	16	32%
26-30	20	40%
31-35	07	14%
>35	02	18%

Table-2: Parity distribution (n=50).

Parity	No.	(%)
0	12	24%
1	18	36%
2	10	20%
3	05	10%
>3	05	10%

Table-3: Risk factors distribution (n=50).

Risk factors	No.	(%)
Previous abortion/MR	11	22%
Previous ectopic pregnancy	02	04%
Infertility treatment	09	18%
Pelvic inflammatory disease	15	30%
Lower abdominal surgery	03	06%
IUCD	02	04%
No known risk factors	08	16%

Table-4: Clinical presentation of patients (n=50).

Symptom	No.	(%)
Abdominal pain	50	100%
P/V bleeding	34	68%
Amenorrhoea	30	60%
Shock	17	34%

Table-5: Site of occurrence (n=50).

Site	No.	(%)
Ampulla	32	64%
Isthmas	10	20%
Interstitial	02	04%
Fimbrial	04	08%
Cornual	01	02%
Ovarian	00	00%
Abdominal	01	02%

Table-6: Laterality of ectopic pregnancy (n=48).

Side	No.	(%)
Right fallopian tube	35	72.91%
Left fallopian tube	13	27.09%

Table-7: Tubal status at operation (n=48).

Status	No.	(%)
Rupture	36	75%
Unrupture	07	14.58%
Abortion	05	10.42%

Table-8: Condition of the other tube (n=48).

Condition	No.	(%)
Normal looking	37	77.08%
Inflamed	06	12.50%
Hydrosalpinx	01	2.08%
Peritubal adhesion	04	8.33%

Table-9: Surgical intervention employed (n=50).

Procedure	No.	(%)
Unilateral salpingectomy	30	60%
Ipsilateral salpingectomy with tubectomy other side	11	22%
Salphingostomy	06	12%
Salphingo-oophorectomy	01	02%
Others	02	04%

Table-10: Blood transfusion required (n=50).

Units of blood	No.	(%)
2	12	24%
3	26	52%
4	10	20%
5	02	04%

Table-11: Duration between diagnosis and surgical intervention (n=50).

Duration	No.	(%)
1 hr	06	12%
1-2 hrs	08	16%
2-3 hrs	22	44%
3-4 hrs	10	20%
4-5 hrs	02	04%
5-6 hrs	02	04%

Most of the patients were anaemic. Twenty one of the cases (42%) had Hb in range of 4-7 gm%, 48% cases Hb in range of 8-10 gm% and only five cases (10%) had Hb more than 10 gm%. The urine for pregnancy test was positive in all of cases. We used ultrasound as a routine in evaluation of ectopic pregnancy, it also showed the sites of ectopic pregnancy. All patients underwent open exploratory laparotomy. Most of the ectopic pregnancies were in the ampullary and isthmic (64% and 20%) region respectively (Table-5). Right sided tubal pregnancy 35 (72.91%) was more common than left tubal involvement 13 (27.09%). Rupture ectopic pregnancy was present in 75% cases on laparotomy, 14.58% had unruptured ectopic and tubal abortion in 10.42% of cases. The most common surgery done was unilateral salpingectomy 30 (60%) followed by ipsilateral sulphingectomy with tubectomy of other side 11 (22%) (table-9). All the patients were given blood transfusions and majority (52%) of cases received three units of blood. Most of the cases (44%) in this study underwent surgery within three hours of diagnosis and 92% of cases were managed surgically within four hours (Table-11). We did not encounter any mortality in this series.

Discussion

Ectopic pregnancy presents a major health problem for women of childbearing age and a leading cause of maternal mortality in the first trimester. The incidence of ectopic pregnancy

varies from place to place even in the same country. Here the incidence has been found to be 8.02/1000 pregnancies or 0.802% during the study period. In a multicentric case control study of ectopic pregnancy in India the incidence of ectopic pregnancy was 3.12/1000 pregnancies⁹. There are different studies showing the fact that the incidence of ectopic pregnancies is increasing day by day. The rate of ectopic pregnancies in North America climbed from less than 0.5% of all pregnancies in 1970 to 2% in 1992.^{10,11} The high figure in the developed countries can be attributed partly to increases in certain risk factors but mostly to improved diagnostic facilities. In our country, pelvic inflammatory disease, unsafe abortion or MR are the main reason to occur ectopic pregnancy.

In the present study most of the patients belonged to the age group of 21-30 years, because in Bangladesh most women marry at an early age, and hence fewer pregnancies are expected beyond the age of 30 years. The youngest age group patient was < 20 years, which constitutes 10% of the cases. Nahar k¹² found similar findings i.e. 46% of the patient were in the age group between 26-30 years and <20 years only 3%. Our study revealed higher incidence (36%) of ectopic pregnancy in patients with para 1 and (24%) in para 0. Shamima et al¹³ observed that 38% patients had para 1-3 and 30% with para 0.

The most common symptoms at presentation were pain abdomen and bleeding per vaginum depicted in 100% and 68% of patients respectively. Synonymous findings were also observed in a study conducted by Chudary et al¹⁴. The most common site of ectopic pregnancy was the fallopian tube in this study accounting for 96% of cases, which is almost same as Bouyer et al¹⁵ (95.5%) and Smitha Singh et al¹⁶ (96%). Ampullary part of the fallopian tube was the most common site reflected in 64% of the cases. Right tubal pregnancy was commonly observed in 72.91% of cases than the left (27.09%) tubal pregnancy. Most of the cases 36 (75%) had ruptured tubal pregnancy and in 7 cases (14.58%) tubes were found distended and unruptured. Only 5 cases (10.42%) were diagnosed to be tubal

abortion. Nahar k¹² found 88% tubal ectopic pregnancy among which 84% were ruptured, 4% unruptured and 10% were aborted. She also found right tube (54%) was more affected than left 34%. In our country ectopic tubal pregnancy was found ruptured in most of the cases, this is probably due to our patients come to the hospital at a later stage and we do not have the adequate facilities to diagnose the case at an early stage. The other sided tube was also examined during operative procedure and it was found normal looking in 37 cases (77.08%). In all other cases tubes were found clinically pathological (i.e. inflamed, adhesions and hydrosalpinx). Almost similar observation has been made by Nahar k¹².

Salpingectomy was the commonest surgical procedure performed in this series. The reasons behind, is that most of the cases were late at presentation with an already destructed tube. Beside that the high rate of pregnancies reported in our locality was considered to be a real risk factor for recurrence of ectopic pregnancy, thus choosing radical surgery might help reducing the risk of recurrence.

Another factor which is known to tamper the outcome of ectopic pregnancy is anaemia, which demand blood transfusion during intra-operative or peri-operative periods. In our study all the cases received blood transfusion, of which 52% cases has received three units of blood and 04% cases received 5 units of blood transfusion. From this findings, we opine that it can be made as protocol to preserve at least three units of compatible blood while dealing with cases of ectopic pregnancy. We also opine that early surgical intervention will carry best results in cases of ectopic pregnancy as observed in our study. Most of the cases of our study (92%) underwent surgery within four hours of the diagnosis. No maternal mortality is reported from our study. A similar postulation was observed from a study conducted by Abbas A et al¹⁷.

By reducing and indentifying the risk factors and 'catching' the patients at the earliest it is possible to improve the prognosis so far as morbidity, mortality and fertility are concerned¹⁸.

References

1. Walker JJ. Ectopic pregnancy. Clin Obstet Gynecot. 2007; 50: 89-99.
2. Panti A, Ikechuku NE, Luckman OO, Yakubu A, Egundu SC, Tanko BA. Ectopic pregnancy at Usmanu Danfodiya University Teaching Hospital Sokoto: a ten-year review. Ann Niger Med. 2012; 6(2): 87-91.
3. Abdul FI. Ectopic pregnancy in Ilorin: a review of 278 cases. Niger J Med. 2000; 9 (3): 92-96.
4. John A. Rock, Howard W. Jone III. Te Linde's Operative Gynecology. 10th edition. Lippincott, Williams and Wilkins, a Wolters Kluwer business. USA. 2008. P 798.
5. F, Gary Cunningham, Kenneth J. Leveno, Steven L. Bloom, John C. Hauth, Dwight J. Rouse, Catherine Y. Spong, Williams Obstetrics. 23rd edition. McGraw-Hill Companies. USA. 2010. p238.
6. Jonathan S. Berek, Deborah L. Berek. Berek and Novak's Gynecology. 15th edition. Lippincott, Williams and Wilkins, a Wolters Kluwer business. USA 2012. p627.
7. Barbara I. Hoffman, John O. Schorge, Joseph I. Schaffer, Lisa M. Halvorson, Karen D. Bradshaw, F. Garey Cunningham, William's Gynecology. 2nd edition. MeGray-Hill Companies. USA. 2012. P198.
8. Raina A, Bajpai M. Experience with ectopic pregnancy in a hospital in India. Indian journal of applied research. 2015; 5(4): 535-37.
9. ICMR (1990): ICMR Task Force Project: Multicentre case control study of ectopic pregnancy in India. J Obstet Gynaecol India, 40: 425-30.
10. Della-Giustina D, Denny M. Ectopic pregnancy. Emerg Med Clin North Am. 2003; 21: 565-84.
11. Tenore JL. Ectopic pregnancy. Am Fam Physician. 2000; 61:1080-8.
12. Nahar k. Study on clinical presentations, management and operative findings of ectopic pregnancy, DMCH, Dhaka. 2006, Dissertation.
13. Shamima Siddiqua, MM Alam, MA Taher Khan. Ectopic pregnancy-A diagnostic dilemma. Bangladesh J Obstet Gynaecol. 2004; 19(1): 7-10.
14. Chudhary et al. The management of Ectopic pregnancy. Irish Medical Journal. 2008; 101(3): 22-28.
15. Bouyer J, Saurel-Cubizolles MJ, Grenier C, Aussel L, Job-Spira N. Ectopic pregnancy and occupation exposure of hospital personnel. Scandinavian Journal of work, Environment and Health. 1998; 24: 98-103.
16. Smitha Singh, Mahendra G, Vijayalakshmi S. Clinical Study of Ectopic Pregnancy in a Rural Setup: A two year survey. Natl J Med Res. 2014; 4(1): 37-39.
17. Abbas A, Akram H. Ectopic Pregnancy; Audit at Maula Bakhsh Teaching Hospital Sargodha. Prof Med J. 2011; 8(1): 24-27.
18. Majhi Ak, Roy N, Karmakar KS, Banerjee PK. Ectopic pregnancy-an analysis of 180 cases. J Indian Med Assoc. 2007; 105(6): 308-12.

All corresponds to
Dr. Nasrin Ara Perveen
Medical Officer
Rajshahi Medical College Hospital, Rajshahi.