

Pattern of Presentation and Management of Ectopic Pregnancy in Tertiary Care Hospital

BANU SA¹, PERVIN MT², AKTHER R³, KABIR R⁴, TASNIM S⁵

Abstract:

Background: Ectopic pregnancy is a life threatening complication of the first trimester of pregnancy that arises in 1.3 – 2.4% of all pregnancies.

Objective: The aim of this study was to determine the frequency of ectopic pregnancy and to evaluate the clinical presentation, risk factors and management outcomes of ectopic pregnancies.

Methods: This was a retrospective, descriptive study of ectopic pregnancies managed at Dhaka Community Medical College Hospital during the period of January 2013 to December 2017. Total 70 cases of ectopic pregnancies were included. The medical records of the patients managed for ectopic pregnancies were retrieved and data were collected from registers. The relevant data were analyzed with simple descriptive statistics and presented in frequency chart and tables.

Results: Total 70 cases of ectopic pregnancies were managed during the study periods which constituted 3.6% of all gynaecological admissions. Most of the patients (35.7%) were between 25 – 29 years age group. It was most common in multiparae with a percentage of 85.7%. The commonest (92.9%) clinical presentation was abdominal pain. Almost 14.3% were in a state of shock at admission. Among the identified risk factors 28.6% had a previous history of induced abortion and 22.9% had pelvic inflammatory disease. Out of 70, 60 patients (85.7%) had ruptured ectopic pregnancies, 4 (5.7%) were unruptured and 5 (7.1%) produced a complex tubo-ovarian mass. Only 1(1.4%) case was presented early & treated with intramuscular methotrexate injection. Surgery by open method in the form of salpingectomy 64(91.4%) and salpingo-oophorectomy 5(7.1%) were the mainstay of management. No maternal mortality found in this series.

Conclusions: Since ectopic pregnancy remains a gynaecological catastrophe in developing countries and a major challenge to the reproductive performance of women worldwide, it should be considered a relevant public health issue. Early diagnosis, identifying of underlying risk factors and timely intervention in the form of conservative or surgical treatment will help in reducing the morbidity and mortality associated with ectopic pregnancy.

Keywords: Ectopic pregnancy, emergency, abdominal pain

Introduction:

Ectopic pregnancy which occurs when a fertilized ovum implants outside the endometrial cavity. According to the implantation site of the blastocyst, ectopic pregnancy is divided into tubal pregnancy,

ovarian pregnancy, abdominal pregnancy or intraligamentary pregnancy¹. Some special site ectopic pregnancies such as caesarean scar pregnancy, cornual pregnancy and cervical pregnancy are also found¹. More than 95% of ectopic

1. Ex Associate Professor (Gynae), Dhaka Community Medical College.
2. Assistant Professor (Gynae), Dhaka Community Medical College.
3. Assistant Professor (Gynae), Dhaka Community Medical College.
4. Registrar (Gynae), Dhaka Community Medical College.
5. Professor and Head (Gynae), Dhaka Community Medical College.

Address of Correspondence: Dr. Selina Akhter Banu, Ex-Associate Professor, Department of Gynae, Dhaka Community Medical College. Mobile: 01711533940.

pregnancies occur in the fallopian tube, making this is the commonest site². It is the leading cause of maternal mortality in the first trimester and accounts for 10% -15% of all maternal deaths. It is also a cause of fetal wastage and has been associated with recurrence and impairment of subsequent fertility³. Tubal ectopic pregnancy is an important cause of maternal morbidity and mortality especially in developing countries where the majority of patients tend to present lately with ruptured ectopic and hemodynamically compromise state⁴.

The incidence of ectopic pregnancy varies from country to country and within the same geographical region depending on the risk factors in the population concern⁵. Several risk factors for ectopic pregnancy have been identified including a history of pelvic inflammatory disease, puerperal sepsis, postabortal sepsis, appendicitis, endometriosis, previous pelvic surgery, previous ectopic pregnancy, induction of ovulation and intrauterine device usage⁶. However, ectopic pregnancy can also occur without any obvious risk factors³.

Ectopic pregnancies could be asymptomatic before rupture. When ruptured symptoms could be acute or subacute³. An early and reliable diagnosis of ectopic pregnancy avoids the higher incidence of maternal morbidity and mortality and preserves future fertility. Nowadays, the use of radio-immuno assay for studying serum beta human chorionic gonadotrophin, the use of pelvic ultrasonography mainly transvaginal sonography, and use of diagnostic laparoscopy enables the gynecologist to diagnose ectopic pregnancy in an early stage before the beginning of any complications⁵.

The treatment of ectopic pregnancy include expectant management as well as medical and surgical protocols. Expectant management should only be used for asymptomatic women with an ultrasound diagnosis of ectopic pregnancy and decreasing hCG levels that are less than 1000iu/l at initial presentation and less than 100 ml fluid in the pouch of Douglas⁷. Unruptured ectopic pregnancy can be treated by operation, medically or by careful observation. In most cases of ectopic pregnancy, surgical intervention is mandatory because of life threatening intraperitoneal haemorrhage⁵.

Since ectopic pregnancy is a major health problem among women of reproductive age, the aim of this

study was to determine the incidence and the clinical profile of patients presenting with ectopic pregnancy as well as common risk factors associated with this life – threatening condition at Dhaka Community Medical College Hospital.

Materials and Methods

This was a retrospective study of all cases of ectopic pregnancies admitted and managed in the Obstetrics and Gynae department at of Dhaka Community Medical College Hospital over 5 years periods (January 2013 – December 2017). Most of the cases of ectopic pregnancies diagnosed and admitted through outpatient department but some cases were undiagnosed admitted through the emergency unit. The diagnosis of ectopic pregnancy was made mainly by history, clinical examination, laboratory investigations and ultrasonogram. The medical records of all patients admitted and managed for ectopic pregnancy during the study period were retrieved and relevant data on age, parity, clinical presentation on admission, risk factors, findings at laparotomy and the outcome of treatment were collected using data entry forms designed for this purpose. Total gynaecological admissions during the study periods were collected from the gynae ward record books.

Results:

During the study period there were 1942 gynaecological admissions, out of which 70 women had tubal ectopic pregnancy creating an incidence of 3.6% (70 of 1942) of all gynaecological admissions. (Figure 1)

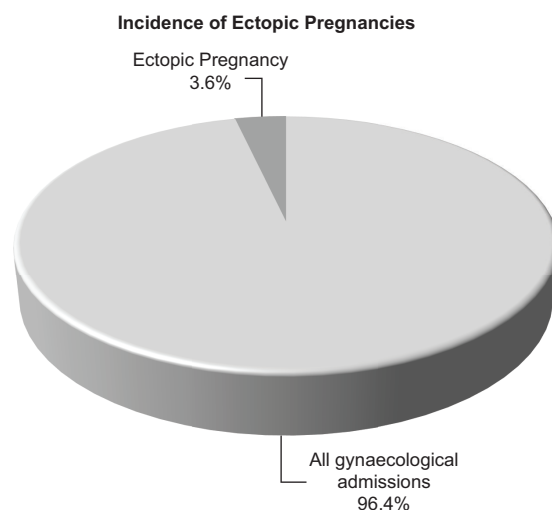


Fig.-1: Incidence of Ectopic Pregnancies

Table I showed the biodemographic characteristics; the major proportion of patients 25 (35.7%) were within the age group 25 – 29 years. A significant proportion 60 (85.7%) of these were multiparous. Majority of the patients 40 (57.1%) were housewife.

Table-I
Biodemographic characteristics of patients with ectopic pregnancies

	Number (n= 70)	Percentage
Age in years –		
Less than 20	10	14.3%
20 – 24	20	28.5%
25 – 29	25	35.7%
30 – 34	09	12.8%
35 and above	06	8.7%
Parity –		
Nullipara	10	14.3%
Multipara	60	85.7%
Occupation –		
Service holder	20	28.6%
Student	10	14.3%
House wife	40	57.1%

20 patients (28.6%) had a past history of induced abortion, while 16 patients (22.9%) had pelvic inflammatory diseases as risk factors for ectopic pregnancy (Table II).

Table-II
Risk factors found in patients with ectopic pregnancy

Risk factors	Number (n = 70)	Percentage
Previous induced abortion	20	28.6%
Previous spontaneous Abortion	10	14.3%
Pelvic inflammatory Disease	16	22.9%
Previous abdomino-pelvic Surgery	07	10%
Previous ectopic pregnancy	05	7.1%
Puerperal sepsis	08	11.4%
Intrauterine contraceptive Device	04	5.7%

The commonest 65 (92.9%) clinical presentation was abdominal pain. 60 (85.7%) presented with amenorrhoea, 55 (78.6%) had vaginal bleeding, 30 (42.8%) presented with history of fainting attack and 10 (14.3%) presented with shock. (Table III)

All the cases were diagnosed by thorough history taking, clinical examination and ultrasonography, while

85.7% did urinary pregnancy test and only 14.3% had serum beta HCG reports before operation. (Table IV).

Table-III
Clinical presentation of patients with ectopic pregnancy

Presentation	Number (n=70)	Percentage
Amenorrhoea	60	85.7%
Abdominal pain	65	92.9%
Vaginal bleeding	55	78.6%
Fainting attack	30	42.8%
Shock	10	14.3%

The majority of the patients 69(98.6%) were treated surgically as they were lately presented in a state of hemodynamic instability. 1(1.4%) case treated medically by Methotrexate injection and this proved to be very effective. The commonest site of ectopic pregnancy was the ampullary region of the fallopian tube 50 (71.4%) followed by the isthmic region 15 (21.5%). Ectopic pregnancies located in the interstitial or cornual region 4(5.7%) of the fallopian tube ruptured at a gestational age 8 weeks or more.

As in Table IV 85.7% of the patients had ruptured ectopic pregnancies, while 5.7% were unruptured and the rest 7.14% produced a tubo-ovarian complex mass. The commonest surgical modality of treatment was salpingectomy 65(92.9%); others were salpingo-oophorectomy 4(5.7%).

Table-IV
Diagnosis, Management and Findings of Ectopic Pregnancy

	Number	Percentage
Diagnostic Methods –		
Ultrasound	70	100%
Urinary pregnancy test	60	85.7%
Serum Beta HCG	10	14.3%
Mode of management –		
Surgical	69	98.6%
Medical	01	1.4%
Site of Ectopic Preg. –		
Ampulla	50	71.4%
Isthmus	15	21.5%
Interstitial / Cornual	04	5.7%
Operative Findings –		
Ruptured	60	85.7%
Unruptured	04	5.7%
Tubo-ovarian complex mass	05	7.1%
Type of Surgery –		
Salpingectomy	65	92.8%
Salpingo - oophorectomy	04	5.7%

Discussion:

Ectopic pregnancy remains to be an important cause of maternal morbidity and mortality worldwide and is a health problem with incidence ranges between 0.25% and 2% of all pregnancies⁸. The incidence of ectopic pregnancy was found in our hospital during the study period was 3.6%. This was more than the incidence mentioned before⁸ and also more than the incidence of 2.1% reported in Abakaliki Nigeria³. The incidence of ectopic pregnancy was found most commonly 25(35.7%) among the age group of 25 to 29 years in this study. Similarly Shetty et al reported maximum incidence of ectopic pregnancy in the age group of 25 to 30 years (74.2%), while Meenakshi et al reported the most common cases (36.55%) were belonged to 21 to 25 years of age^{9,10}. Majority of patient were multiparous (85.7%). Multiparous women were also found to be more prone to ectopic pregnancy in different students mentioned by various authors^{9,11,12}. Previous history of induced abortion 20 (28.6%) and pelvic inflammatory disease 16 (22.9%) were major risk factors in our study. Similarly commonest risk factors were history of MR (12.7%) and abortion (10.6%) in a study done by Yeasmin et al¹². This is also similar to the study done by Osahani et al³ and Shruti R et al¹³. In study of Shaista Aziz et al the risk of ectopic pregnancy was higher only for women who underwent medical induced abortions, they did not find any association for surgical abortion. They interpreted the association as the consequence of infection after abortion, as systemic antibiotic prophylaxis is more routinely given in cases of surgical abortions, whereas such prophylaxis is not given in cases of medical abortions¹⁴. Vaswani et al reported the risk of ectopic pregnancy three times increased in women with previous pelvic surgery¹⁵ but in current study association between previous pelvic surgery and ectopic pregnancy were only 10% while in study of Meenakshi et al and Gaddagi et al maximum incidence of ectopic pregnancy was seen in patients who had no apparent risk factors^{10,11}. In this study majority of the patients had ruptured ectopic pregnancy that was either acute or subacute and the diagnosis was mainly on history and physical examination. Urinary pregnancy test and serum beta HCG were used as supportive investigations while the diagnosis was confirmed by transabdominal ultrasonography. The commonest site of ectopic pregnancy from our findings was the ampullary region of the fallopian tube (71.4%) which

has also been reported as the commonest site by the studies of various authors^{3,9,11,16,17}. In the present study, the incidence of ruptured ectopic pregnancies were 85.7% cases followed by unruptured ectopic pregnancies 5.7% and in 7.14% cases formed tubo-ovarian complex mass which was similar to the findings mentioned in studies of different authors^{9,11,13,17}.

Surgical management was the most common mode of management in our study as most of the patients (98.6%) were presented late with ruptured ectopic and internal bleeding. Only 1.4% case presented with ectopic early and was treated with intramuscular methotrexate injections, this proved to be very effective. Surgery by open method in the form of unilateral salpingectomy was done in 91.4% cases followed by unilateral salpingo-oophorectomy in 7.1% cases which was similar to other studies. No maternal mortality was noted. An important limitation of this study was that no control group was assigned so results cannot be compared. Being a retrospective study some of the important information regarding past gynaecological history were missing.

Conclusion:

Ectopic pregnancy is quite common gynaecological emergency, common associated risk factors are history of abortion, D&C and pelvic inflammatory disease. Which can be reduced by increasing awareness among women and options for safe sexual practices. Although ectopic pregnancy cannot be totally prevented early diagnosis and management is the mainstay in reducing mortality and morbidity in such cases.

References:

1. Xue – lian Chen, Zi-ru Chen, Zhen – lan Cao, Ke – Han, Ya – wen Tong and Chun-xiu Hu. The 100 most cited articles in ectopic pregnancy : a bibliometric analysis. Springerplus. 2016 Oct ; 5 (1) : 1815
2. Erickson BT. Ectopic pregnancy In: Bader T, editor. *Ob/Gyn Secrets*. 3rd ed. Maryland Heights (MO): Mosby; 2007: 109 – 113.
3. Osaheni L Lawani, Okechukwu B Anozie, Paul O Ezeonu. Ectopic pregnancy : a life threatening gynaecological emergency. *International journal of women's health* 2013 ; 5 : 515 – 521.

4. Panti A, Ikechukwu NE, Iukman OO, Yakubu A, Egundu SC, Tanko BA. Ectopic pregnancy at Usmanu Danfodiyo University Teaching hospital Sokoto: a ten year review. *Ann Niger Med.* 2012 ; 6 (2) : 87-91.
5. Belquis AJ and Dikrayal H. Frequency of Tubal Ectopic Pregnancy and mode of Management at Al- Thawra General Modern Hospital. *Critical Care Obst Gyne.* 2017. Vol. 3 No.1:5;1 – 5.
6. Al – Turki HA. Ectopic pregnancy : Prevalence and risk factors in Saudi Arabian Woman. *Saudi Medical Journals* 2012. 339 : 179 – 182.
7. Serpil Aydogmus, Serenat Eris, Huseyin Aydogmus, Goncagul Gulbas Tanrisever, Halime Sen Selim, Melike Demir Caltekin, Zeynep Cetinkaya Seyhanli, Sefa Kelekci. Management and Results of Ectopic Pregnancy Adapted by Clinical Guidelines: Two Years Experience of University Hospital in Turkey. *Open Journal of Obstetrics and Gynecology*, 2014, 4 ,766 – 770.
8. Omokanye, L.O., Balogun, O.R., Salaudeen, A.G., Olatinwo, A.W. and Saidu, R. Ectopic pregnancy in Ilorin, Nigeria: A Four Year Review. *Nigerian Postgraduate Medical journal* 2013; 20: 341 – 345.
9. Shetty S, Shetty A . A clinical study of ectopic pregnancies in a tertiary care hospital of Mangalore, India. *Innov J Med Health Sci.* 2014: 4(1) ; 305 – 309.
10. Meenakshi T Chate, Bhagyashree Chate, Kranti Chate. Clinical study of ectopic pregnancy .*Int J Reprod Contracept Obstet Gynecol.* 2017 Aug ; 6(8) : 3498 – 3501.
11. Gaddagi RA, Chanda Shekhar AP. A clinical study of ectopic pregnancies. *J Clin Diag Res.* 2012 : 6 ; 867 – 869.
12. M S Yeasmin, M Jalal Uddin, Enamul Hasan. A Clinical Study of Ectopic Pregnancies in a Tertiary Care Hospital of Chittagong, Bangladesh. *Chattagram Maa - O – Shishu Hospital Medical College Journal.* 2014 Sept.; 13 (3) : 1 – 4.
13. Shruti R , Bhoosanoor, Sujani BK, Urvashi, Gayatri Devi Sivasambu. Ectopic pregnancy: A life threatening Gynaecological emergency. *Int J Reprod Contracept Obstet Gynecol.* 2017 Jan; 6(1) : 117 – 120.
14. Shaista Aziz, Bothaina Al Wafi, Hussain Al Swadi. Frequency of Ectopic Pregnancy in a Medical Centre, Kingdom of Saudi Arabia. *Journal of The Pakistan Medical Association.* 2011 March ; 61 (3) : 221-224.
15. Vaswani P. and Vaswani R. “ Evaluation of Risk Factors for Ectopic Pregnancy among Women Attending a Tertiary Care Hospital in United Arab Emirates : A case control Study. *Sri Lanka Journal of Obstetrics and Gynaecology* 2013 : 35: 53 – 57.
16. Marion LL, Meeks GR. Ectopic Pregnancy : History, incidence, epidemiology and risk Factors. *Clin Obstet Gynecol.* 2012 ; 55 : 376 – 386.
17. Sadia Akter, Sharmin Sultana. Management of Ectopic pregnancy in a Tertiary Care Hospital by Surgery. *Bangladesh J Obstet Gynecol*, 2013. Vol.28(1) : 21 – 25.
18. Kamrun Nahar, Turani Talukder, Sabiha Sultana, Md. Anwar Hossain. Study on Risk Factors, Clinical Presentation & Operative Management of Ectopic Pregnancy. *Bangladesh J Obstet Gynecol*, 2013; Vol. 28 (1): 9 – 14.