International Journal of Biomedical Research
ISSN: 0976-9633 (Online); 2455-0566 (Print)
Journal DOI:10.7439/ijbr
CODEN: IJBRFA

Original Research Article

A retrospective analysis of ectopic pregnancy in a tertiary care centre in South Kerala

Lakshmi Nair*, Nirmala Peter and Adlin Rose

Department of Obstetrics and Gynaecology,Dr. SMCSI MCH, Karakonam, Trivandrum, Kerala.

***Correspondence Info:**
Dr. Lakshmi Nair
Department of Obstetrics and Gynaecology,
Dr SMCSI MCH, Karakonam, Trivandrum, Kerala.
E-mail: drlnair@gmail.com

Abstract

Introduction: Ectopic pregnancy means the presence of pregnancy outside the normal uterine cavity. Ectopic pregnancy commonly occurs in the fallopian tube (95 %). Diagnosis can be made by USG, serum hCG, 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 and can be medical as well as surgical.

Objectives: To determine the incidence of ectopic pregnancy, to assess the percentage of ectopic pregnancy diagnosed with each modality, to identify the factors associated with ectopic pregnancy and to calculate the type of management employed whether medical or surgical.

Material and methods: This is a retrospective study where all the cases of ectopic pregnancies from 1st January 2008 to 31st December 2013 were included. The data on each patient was obtained and was duly entered in M S Excel and descriptive statistical measures were used for analysis

Results: The incidence of ectopic pregnancy in the present study was 0.7%. 33.3% patients were primigravida. 5.5% had history of recurrent abortions, 11% of the patients took treatment for infertility, 27.7% had history of previous LSCS, D&C was done in 13% patients and 31.5% had undergone sterilization. In 83.3% ectopic gestation was diagnosed by ultrasound whereas rest 16.7% was diagnosed by serial serum hCG estimation. 22.2% underwent medical management whereas 89% patients underwent surgical management. Failure of medical therapy and subsequent surgical management was seen in 50% patients.

Conclusions: 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, Ultrasonography, Injection Methotrxate.

1.Introduction

Ectopic pregnancy means the presence of pregnancy outside the normal uterine cavity. It is an important cause of maternal mortality in the first trimester worldwide and also in our country. The overall incidence of ectopic pregnancy is increasing in the past three decades but due to early diagnosis and management, the case fatality rate has come down. In spite of good diagnostic methods available most women present late as majority of the cases are asymptomatic till they rupture. Ectopic pregnancy commonly occurs in the fallopian tube (95 %)[1]. Most likely cause of ectopic pregnancy is the delay in the passage of the fertilized ovum from the fallopian tube to the uterine cavity[1]. The associated risk factors are sexually transmitted diseases, pelvic inflammatory disease, and history of previous ectopic, tubal sterilization, intra uterine device usage and age > 35yrs [2,3,4]. Diagnosis can be made by USG, serum βhCG, although the 'gold standard' is laparoscopy[5]. 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.

1.1 Objectives

To determine the incidence of ectopic pregnancy. To assess the percentage of ectopic pregnancy diagnosed with each modality (USG, βhCG, laparoscopy etc), to identify the factors associated with ectopic pregnancy and to calculate

the type of management employed (medical or surgical).

2. Material and methods

This is a retrospective study conducted at Dr SMCSI MCH, Karakonam, Kerala. All the cases of ectopic pregnancies for past 6 years i.e. from 1st January 2008 to 31st December 2013 were included in this study. These cases were traced through the registers kept in casuality, gynaecology wards and OT records. The labour register was used to determine the total number of deliveries during this period. The data on each patient was obtained from their case records kept in the medical records department. All the relevant information and data was recorded in detail in a structured proforma prepared by the investigator. The data was duly entered in M S Excel and descriptive statistical measures were used for analysis.

3. Results

The incidence of ectopic pregnancy in the present study was 0.7% (54/ 6956 deliveries). Majority of the patients 72.2% (39/54) were between the age group of 20 to 30 years. In this study 33.3% (18/54) were primigravida.

About 5.5%(3/54) had history of recurrent abortions, 11% (6/54) of the patients took treatment for infertility, 27.7%(15/54) had history of previous LSCS, D&C was done in 13%(7/54) patients, 31.5%(17/54) had undergone sterilization, PID and previous ectopic pregnancy was seen in one patient each. Out of the 17 patients who underwent sterilization 53%(9/17) had concurrent sterilization with cesarean section, 29.4%(5/17) had post partum sterilization and 17.6%(3/17) had laparoscopic sterilization. The duration post sterilization was seen to be between 2-5 years in 53 %(9/17) patients.

In 83.3% (45/54) ectopic gestation was diagnosed by ultrasound whereas rest 16.7%(9/54) were diagnosed by serial serum hCG estimation.

22.2%(12/54) patients underwent medical management with injection methotrexate, out of which 14.8%(8/54) were given single dose and 7.4%(4/54) were given multiple doses of injection methotrexate respectively. 89%(48/54) patients underwent surgical management by laparoscopy/ laparotomy depending on the condition of the patient. Failure of medical therapy and subsequent surgical management was seen in 50% (6/12) patients.

4. Discussion

The incidence of ectopic pregnancy in the present study was 0.7%which is comparable to an institution based study done between 1988 – 1993 by Firyal Omer Mohammed Nous[6] where the incidence in India was found to be 0.62%. Similarly in a study by Costa *et al*[7] in 2004 the annual incidence of ectopic pregnancy worldwide was found to be 0.1 -0.17 in women between the age groups of 15-44 years. In this study majority of the patients were between the age group 20-30 yrs(72.2%), this is probably because the early age of marriage , child bearing and subsequent sterilization seen in our country. A study by Bansal *et al*[8] the mean age of ectopic pregnancy was found to be 25 years. Majority of patients i.e. 33.3% patients in the present study were primigravida. Morice *et al*[9] 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.

In this study 5.5% patients had recurrent abortion. Ankum *et al*[3] 1996 found that there is a slight increase of ectopic conception in women with previous abortions. Infertility treatment by ovulation induction with clomiphene citrate was seen in 11% patients, that is because the hormonal alterations caused by clomiphene and other ovulation induction agents may predispose to tubal implantation[5]. 27.7% patients in this study had history of previous LSCS this high rate of previous LSCS may be due to the fact that a majority of patients undergoing cesarean section had also undergone concurrant sterilization by tubectomy and the ectopic conception may be due to sterilization failure than due to cesarean section per say. In a similar retrospective study by Shetty *et al*[10], only 12.9% patients with ectopic gestation had history of previous LSCS. 13% patients had D&C which was similar to a study by Khaleeque *et al*[11] where they found that 12.9% patients had history of D&C. In studies by Chi *et al*[12], Cheng *et al*[13] and DeStefano[14] found that the risk of tubal pregnancy after sterilization is between 5-16% where as in the present study the rate was 31.5%.The reason why such a high incidence is probably due to the early age of tubectomy in women in Kerala predisposing them to higher rate of subsequent recanalization and tubal pregnancy. The duration of post sterlization in 53% cases was between 2-5 years according to study by Cheng *et al*[13] the risk of having ectopic pregnancy is highest in the first 2 years of sterlization . Only one patient in this study had PID but contrary to this a study by Vasquez *et al*[1] found that PID was a major contributory factor for ectopic gestation.

In the present study 83.3% patients were diagnosed by Ultrasonography. Condous *et al*[15] stated that an experienced sonologist can diagnose 75-80% of ectopic gestation by transvaginal sonography in the first visit itself. The rest can be

diagnosed in the next visit. In our study the remaining 16% were diagnosed by serial serum hCG estimation as Ultrasonography showed thickened endometrium only. A prolonged hCG doubling time is an indicator for abnormal pregnancy as seen by Kadar *et al*[16].

Ectopic pregnancy can been treated both medically as well as surgically depending on the clinical condition of the patient, site of ectopic and availability of resources. In the present study 22.2% patients underwent medical management. 14.8% were given single dose and 7.4% received multiple doses of injection methotrexate. In a study by Stowel and Ling[17] the reported success rate of single dose methotrexate was more than 90%, in the same study they said that 3.3% of the patients undergoing medical management had rupture even after meeting the selection criteria. In our study nearly 50% patients undergoing medical therapy had failure and had to undergo surgery probably because of poor case selection.

89% patients underwent surgery either laparoscopy / laparotomy depending on the clinical condition of the patient. The high rate of surgery is because of the hospital being a tertiary care centre and the patients themselves present late to the hospital or are referred from other centres.

5. Conclusions

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 even in the referred cases. More patient and doctor awareness is required so that we can diagnose the condition earlier and prevent complications and protect the future reproductive function of the patient especially as we see that the incidence in primigravida is rising.

Acknowledgements

We are extremely grateful to Dr. Soumya Gopakumar Assistant Professor, Department of Community Medicine, Dr SMCSI MCH for valuable contribution in data analysis.

References

[1] Vasquez G, Winston RML & Brosens IA. Tubal mucosa and ectopic pregnancy. *BJOG* 1983; 90: 468.

[2] Westrom L, Bengtsson LPH, Mardh P-A. Incidence, trends, and risks of ectopic pregnancy in a population of women. *BMJ* 1981; 282:15–18.

[3] Ankum WM, Mol BWJ, Van der Veen F & Bossuyt PMM. Risk-factors for ectopic pregnancy – a meta-analysis. *FertilSteril*1996; 65: 1093–9.

[4] Mol BW, Ankum WM, Bossuyt PM &Vand Derveen F. Contraception and the risk of ectopic pregnancy: a meta-analysis. *Contraception*1995; 52: 337–41.

[5] Berek & Novak's Text book of Gynecology 13th Edition; chapter 17.

[6] Ectopic pregnancy incidence, morbidity and mortality by Firyal Omer Mohammed Nous, University of Khartoum, Sudan.

[7] Coste J, Bouyer J, Ughetto S *et al*. Ectopic pregnancy is again on the increase. Recent trends in the incidence of ectopic pregnancies in France (1992–2002). *Hum Reprod* 2004; 19(9): 2014–8.

[8] Bansal Neetha, Nanda Anju, Gupta Vineeta; Profile of ectopic pregnancy in a tertiary level hospital in Uttrakhand, India. *OJ OG*, 2015; 5: 185-191. DOI: 10.4236/OJOG.2015.54026.

[9] Morice P, Dubuisson JB, Chapron C, De Gayffier A & Mouelhi T. Laparoscopic treatment of ovarian pregnancy. *Gynecol Endo*1996; 5: 247–9.

[10] Shetty Shraddha K, Shetty Anil; A clinical study of ectopic pregnancies in a tertiary care hospital of manglore India: *Innovative Journal of Medical and Health Science*2014; 4(1): 305-309.

[11] Khaleeque F, RI Siddiqui, SN Jafarey; Ectopic pregnancies: A 3 year study. *Journal of Pakistan Medical Association*, July 2001.

[12] Chi IC, Potts M, Wilkens L. Rare events associated with tubal sterilizations: an international experience. *Obstet Gynecol Surv* 1986; 41:7–19.

[13] Cheng MC, Wong YM, Rochat RW, *et al*. Sterilization failures in Singapore: an examination of ligation techniques and failure rates. *Stud Fam Plann* 1977; 8:109–115.

[14] DeStefano F, Peterson HB, Layde PM, *et al*. Risk of ectopic pregnancy following tubal sterilization. *Obstetgynecol* 1982; 60:326–330.

[15] Condous G, Okaro E, Khalid A *et al*. The accuracy of transvaginal sonography for the diagnosis of ectopic pregnancy prior to surgery.*HumReprod*2005; 20: 1404–9.

[16] Kadar N, Caldwell BV, Romero R. A method of screening for ectopic pregnancy and its indications. *Obstet Gynecol* 1981; 58:162–165.

[17] Stovall TG & Ling FW. Single-dose methotrexate: an expanded clinical trial. *AJOG* 1993; 168: 1759–65.