



ECTOPIC PREGNANCY IN OROTTA NATIONAL REFERRAL MATERNITY HOSPITAL: FROM JANUARY 1,2009 to DECEMBER 31, 2011

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ABSTRACT

Objectives:-To assess the prevalence of ectopic pregnancy in Orotta Maternity Hospital. To assess some of the risk factors that lead to ectopic pregnancy.

Methods:-Data collection for this study was performed as part of an institutional board approved three-year retrospective cross-sectional descriptive study of patients admitted to Orotta National Referral Maternity Hospital with the diagnosis of ectopic pregnancies. Patient identification was performed through review of pre-recorded log book and patient card describing each patient admitted to Gynecology ward. Based on this, medical records were reviewed and pertinent maternal information was recorded including obstetrics, medical, surgical, social history and demographic information. Pertinent information on the outcome of the problem was also reviewed. Data were entered into a computer and analyzed using STATA 9.

Result: - a study of 49 cases of ectopic pregnancy managed over a three-year period in Orotta National Maternity Referral Hospital was reported. The total number of deliveries in the hospital during the study duration was 30,000. The prevalence of ectopic per 1000 deliveries was 16. From this study the mean age, gravidity and parity were 30, 3 and 2 respectively. The mean gestational age for ectopic pregnancy was 7 weeks. All of the ectopic cases complained of abdominal pain but only 75% of them had vaginal bleeding. More than 94% came with ruptured ectopic and needed emergency blood transfusion. It shows that it is one of the commonest gynecological emergencies in the hospital. The usual surgical treatment of cases in our unit was total salpingectomy.

Discussion: - ectopic pregnancy was common in our hospital like in some African countries. Late diagnoses were important findings that should encourage our physicians to promote ectopic pregnancy prevention programs and to improve the care given to women with ectopic pregnancy. It should be considered a relevant public health indicator in our country, providing an overall picture of the capacity of a health system to deal with the diagnosis and treatment of emergency situations, especially in the field of obstetrics and gynecology.

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INTRODUCTION

Ectopic pregnancy (EP) is defined as a pregnancy in which the implantation of the embryo occurs outside the uterine cavity, most frequently in one of the two fallopian tubes or, more rarely, in the abdominal cavity. During the first three months of pregnancy, EP is the leading cause of maternal death in industrialized countries, and possibly the second most frequent cause in developing countries (after abortion complications)(1). EP is derived from the Greek word *ektos*, meaning out of place, and it refers to the implantation of a fertilized egg in a location outside of the uterine cavity, including the fallopian tubes, cervix, ovary, cornual region of the uterus, and the abdominal cavity (2).

Since 1970, the frequency of EP has increased 6-fold, and it now occurs in 2% of all pregnancies (2). Multiple factors contribute to the relative risk of ectopic pregnancy. In theory, anything that hampers the migration of the embryo to the endometrial cavity could predispose women to ectopic gestation. Some of the risk factors that are associated with it are pelvic inflammatory disease, history of prior ectopic pregnancy, use of fertility drugs or assisted reproductive technology, use of an intrauterine device, increasing age, smoking, prior abdominal surgery, failure with progestin-only contraception, and ruptured appendix(2).

The diagnosis of EP can be made by noninvasive methods, i.e. sensitive pregnancy tests (in urine and serum), and high resolution transvaginal sonography, which have been integrated in reliable diagnostic algorithms (3).

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The most common extra-uterine location is the fallopian tube, which accounts for 98 percent of all ectopic gestations. Management of these pregnancies has changed dramatically over the years. The guiding principle has become a conservative approach that attempts to save the tube, rather than salpingectomy. However, it is important to remember that hemorrhage from ectopic pregnancy is still the leading cause of pregnancy related maternal death in the first trimester and accounts for 4 to 10 percent of all pregnancy related deaths, despite improved diagnostic methods leading to earlier detection and treatment(4) . In one series of 1800 surgically treated cases, the distribution of sites was ampullary (70 %), isthmic (12 %), fimbrial (11.1 %), ovarian (3.2 percent), interstitial (2.4 %), and abdominal (1.3%) (4)

Data on EP are rare and often out of date in developing countries, particularly in Africa. A review of EP in developing Countries from the 1960s to the mid-1980s showed that the incidence of EP was between 0.5% and 2.3% of live births in Africa (5).

There is no any data about the incidence of ectopic pregnancy in Eritrea and there in no any code specifically for ectopic pregnancy in the ICD-9. For this reason it is important to study the prevalence of the diseases in Orotta Maternity Hospital for it show the prevalence of the diseases in the country.

LITERATURE REVIEW

Every year some eight million women suffer pregnancy-related complications and over half a million die. In developing countries, one woman in 11 may die of pregnancy-related complications compared to one in 5000 in developed countries (6). EP is the leading cause of pregnancy-related death in the first trimester, accounting for 9% of all pregnancy-related deaths (6).

In one study of the 268 pregnancy-related deaths, 16 (6%) were caused by complications of ectopic pregnancy. Mean age at death was 27 (± 6) years (7). While the incidence of ectopic pregnancy has continued to increase, the case fatality rate has dropped from 69% in 1876, to 0.35% in 1970, and to 0.05% in 1986. The death rate for African American and other minority women remains over double that for white women and the highest death rate occur in the 15- to 19-year-old age group(8).

Whereas ectopic pregnancy is well documented in industrialized countries, little research has been done on this gynecologic emergency in developing countries, especially in African regions. Liskin, reviewing ectopic pregnancy incidence from the 1960s until the middle of the 1980s, reported the highest incidence rates in African countries (between 0.5% and 2.3% of live births), whereas low incidence rates were observed in Asia and the Middle East in the same period (between 0.4% and 0.6% of live births) (9).

In Madagascar, a hospital-based ectopic pregnancy incidence of 2.9% (live births) was observed in the island of Nosy Be between 1993 and 1995. In Nigeria (Ile-Ife teaching hospital), the hospital-based incidence of ectopic pregnancy quadrupled between 1977 and 1987 (0.4-1.7% of live births), and in Gabon (University Medical Center of Libreville) it doubled in a 12-year period from 1% in 1977 to 2.3% in 1989 (9). In the United States, the incidence of ectopic pregnancy increased from 4.5/1,000 pregnancies in 1970 to 19.7/1,000 pregnancies in 1992 (10).

Objective

1. General objective: To assess the prevalence of ectopic pregnancy in Orotta Maternity Hospital
2. Specific objective-
 - To determine the prevalence of the disease
 - To assess some of the risk factors that leads to ectopic pregnancy
 - To determine main surgical intervention in the hospital.

MATERIALS AND METHODS

This study was conducted in Orotta National Referral Hospital. The study protocol was reviewed and approved by Institutional Review Board. It was a retrospective cross-sectional descriptive study of patients admitted in Orotta National Referral Maternity Hospital with the diagnosis of ectopic pregnancies from Jan 1st 2009 to Dec 31 2011, in Asmara, Eritrea. Patient identification performed through review of prerecorded log book and patient card describing each patient admitted to Gynecology ward with the diagnosis of ectopic pregnancy. Based on this, Medical records were reviewed and pertinent maternal information was recorded including obstetrics, medical, surgical, social history and demographic information.

Pertinent information on the outcome of the problem was also reviewed which includes the type and the location of ectopic, outcome of the operation, the type of operation and blood transfusion rate. The main out come measures were prevalence of ectopic, risk factors for ectopic, and main surgical intervention in the hospital.

Statistical analysis-Data were entered into computer and analyzed using the STATA 9.

RESULT

A study of 49 cases ectopic pregnancy managed over three years period in Orotta National Maternity Referral Hospital was reported. The total number of deliveries in the hospital in the study duration was 30,000. The prevalence of ectopic per 100 deliveries was 1.6. From this study the mean age, gravidity and parity were 30, 3 and 2 respectively. The mean gestational age for ectopic pregnancy was 7weeks (table 1).

Table 1 The mean distribution of ectopic mothers by age parity, gravidity and gestational age in OMNRH, 2009-2011.

Variable	Observation	Mean	Standard deviation	Range	
				Minimum	Maximum
Age	49	30	5	18	46
Gravidity	49	3	2	1	11
Parity	49	2	2	0	8
Gestational age	49	7	3	4	14

Table 2 shows data stratified by age. The two extreme age groups had the lowest percentage of ectopic pregnancy, whereas the age group 21 to 30 had the highest percentage (57%). Demographic information of ectopic pregnant mother shows 84 % live in ZobaMeakel, 76% of them are married and 98 % of them are Christians.

In our study, the percentage of patients who presented with ectopic pregnancy with abdominal pain was 100%, amenorrhea 88% and vaginal bleeding 75%. Abdominal tenderness and/or adnexal tenderness (100%) were the most

common physical findings. From this study most of them didn't have significant risk factors such as history of Evacuation and curettage, pelvic inflammatory disease, infertility, abdominal operation and usage of contraceptive. Ninety eight percent of the cases pregnancy test was positive (table 3).

Table 2- Socio-demographic characteristics of ectopic pregnant women in OMNRH, 2009-2011

Variable	Frequency	Percent
Address		
Meakel	41	84
Others	8	16
Religion		
Christian	48	98
Muslim	1	2
Age		
≤20	2	4.1
21-25	6	12.3
26-30	22	44.9
31-35	10	20.4
36-40	8	16.3
>41	1	2
Marital status		
Married	37	76
Single	12	24
Total	49	100

Table 3 Frequency distribution of ectopic pregnancy based on history, finding, location of ectopic and treatment

Variable	Frequency	Percentage
Amenorrhea	43	88
Abdominal pain and abdominal tenderness	49	100
Vaginal bleeding	37	76
Usage of contraceptive	2	4
History of Infertility	10	20
History of PID	3	6
History of Abdominal operation	1	2
History of E and C	14	29
Location		
Ampullary	40	82
Isthmus	3	6
Fimbrial	4	8
Others	2	4
Operation		
Salpingectomy	43	88
Salpingooproctomy	4	8
Others	2	4
Out come		
Ruptured ectopic	46	94
Unruptured ectopic	2	4
Others	1	2
Blood transfusion		
Yes	24	51
NO	23	49

In 96 % of the cases ectopic pregnancy occurs in the tubes. Among this 82 % occur in the ampulla. Ninety four percent of them came with ruptured ectopic needing emergency blood transfusion. The blood transfusion rate in this study was 55%. The usual surgical treatment in our unit is salpingectomy which accounts for 88 % of the cases. Late diagnoses were key elements leading in almost all cases to major complications and emergency surgical treatments. This is well summarized in table 3.

DISCUSSION

Our estimates of ectopic pregnancy in the three years study period in the large managed care Orota Maternity Hospital was quite similar to most of Africa country studies and western countries (2, 5, and 8).

All women in the reproductive age group who present to a gynecologist or hospital emergency department with lower abdominal pain, with or without vaginal bleeding, have an ectopic pregnancy until proven otherwise. A urinary pregnancy test is mandatory in this clinical situation and if positive, these women should then have a transvaginal ultrasound scan (TVS) performed.

Late diagnoses were important findings that should encourage our physician to promote ectopic pregnancy prevention programs and to improve the care given to women with ectopic pregnancy. EP should be considered a relevant public health indicator in Eritrea, providing an overall picture of the capacity of a health system to deal with the diagnosis and treatment of emergency situations, especially in the field of obstetrics and gynecology.

Limitation of the study

- Difficulties to assess risk factors from prerecorded log book or an incomplete patient card.
- Few cases of ectopic may be operated as a case of acute abdomen in surgical department.

Reference

1. Tay JI, Moore J, Walker J. Ectopic pregnancy. *BMJ* 2000; 320:916-9.
2. Lawson HW, Atrash HK, Saftlas AF, et al. Ectopic pregnancy in the United States, 1970-1986. *MMWR CDC SurveillSumm* 1989; 38(2):1-10.
3. Ankum WM, Van der Veen F, Hamerlynck JV, et al. Laparoscopy: a dispensable tool in the diagnosis of ectopic pregnancy? *HumReprod* 1993; 8(8):1301-6.
4. Bouyer J et al, Sites of ectopic pregnancy: a 10 year population-based study of 1800 cases, *Hum Reprod* 2002; 17:3224.
5. Leke RJ, Goyaux N, Matsuda T, Thonneau PF. Ectopic pregnancy in Africa: a population-based study, *Obstet Gynecol.* 2004 Apr; 103(4):692-7.
6. Regional health forum WHO South East Asia region, Process Documentation of the Initiative to "Improve the Quality of Maternal Health through Implementation of Facility-Based Review of Maternal Deaths", volume 9, 2005
7. Anderson, Frank W. J. MD, MPH; Hogan, Joanne G. PhD; Ansbacher, Rudi MD, MS Sudden Death: Ectopic Pregnancy Mortality.
8. Liberato V. Mukul, MD, Stephanie B. Teal, MD, MPH, Current Management of Ectopic Pregnancy *ObstetGynecolClin N Am* 34 (2007) 403-419
9. Goyaux N et al, Ectopicpregnancy in Africad eveloping countries, *Acta ObstetGynecolScande, 2003, 82(4): 305-12*
10. Centers for Disease control and Prevention (CDC), Ectopic pregnancy-United States, 1990-1992, *MMWR, Morb,Mortal,Wkly,Rep*1995:44:46