

Original Research Article

Ectopic pregnancy at Soavinandriana hospital center, Antananarivo, Madagascar

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Received: 03 July 2018

Revised: 16 July 2018

Accepted: 20 July 2018

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ABSTRACT

Background: In the first trimester pregnancy, ectopic pregnancy is the most life-threatening gynecological emergency. The aim of this study was to estimate the epidemiological, diagnostic and therapeutic aspects of ectopic pregnancy in Antananarivo, Soavinandriana Hospital Center.

Methods: This was a prospective study carried out among consecutive patients of ectopic pregnancy admitted from January 2014 to February 2016. All cases of diagnosed ectopic pregnancy admitted and managed in the gynecological ward were included in the study. These were reviewed and information was extracted regarding women characteristics, clinical features, diagnosis, management and post-operative complications.

Results: During this period, there were 41 ectopic pregnancies. The incidence was therefore 20/1000 births. The mean age was 32,26years. The peak age of incidence was the 30-39 years age group. Nulliparous were the most sufferers. The commonest risk factors identified were previous genital infection. (n=17; 41,46%) previous induced abortions (n=15; 36,58%) and the age ≥ 35 years old (n =16; 39,02%). Twenty seven patients (n=11) did not have a quantitative measurement of the β subunit of human chorionic gonadotropin (β -hCG). Pelvic ultrasound (transabdominal) was performed on all patients. The majority of patients had a laparotomy (n=35, 85,36%). Tubal pregnancies were noted in 90% (n=37) cases.

Conclusions: Health educations on early presentation in hospitals are expected to reduce the incidence of EP and the consequent loss of reproductive potential. The majority of risk factors we identified can be early detected and treated.

Keywords: Abdominal pain, Ectopic pregnancy, Laparotomy, Pelvic ultrasound, Plasma β HCG

INTRODUCTION

Ectopic pregnancy (EP) is defined as the implantation and development of a fertilized ovum anywhere outside of the uterine cavity. The insidious and potentially catastrophic nature of EP has historically made it one of the most feared conditions to occur in women of reproductive age.¹ In the first trimester pregnancy, it is

the most life-threatening gynecological emergency, and a significant cause of maternal morbidity and mortality. In fact, 10% of women admitted for EP died in underdeveloped countries.²

Because an undiagnosed EP can quickly result in the untimely death of an otherwise healthy patient, the diagnosis and treatment of this condition have been

extensively studied. Not every patient with EP will present similarly and, unfortunately, not every patient will demonstrate similar findings on these laboratory or imaging tests. Clinical aspect and measurement vary from country to country.

The aim of this study was to estimate the epidemiological, diagnostic and therapeutic aspects of ectopic pregnancy in Antananarivo, Soavinandriana Hospital Center.

METHODS

This was a prospective study carried out at Department of Obstetrics and Gynecology, Soavinandriana Hospital Center, among consecutive patients of ectopic pregnancy admitted from January, 2014 to February 2016.

All cases of diagnosed ectopic pregnancy admitted and managed in the gynecological ward were included in the study. These were reviewed and information was extracted. After admission the detailed histories were recorded on a special proforma including presenting complaints with special reference to amenorrhoea, severity and pattern of lower abdominal pain, duration and amount of vaginal bleeding, etc. Thorough menstrual history, complete obstetrical history with special reference to gravidity and parity was recorded. History of pelvic inflammatory disease, use of contraception and abdominal surgery was also noted.

A thorough physical examination, including local, general and systemic was carried out with special consideration to signs of shock, abdominal tenderness, rigidity, abdominal distension, size of uterus, adnexal mass and rocking of cervix. Investigations included complete blood picture, blood HCG, abdominal ultrasonography. Diagnosis was based on clinical features, and ultrasound examination. Management was also recorded.

Statistical analysis was performed using Epi info 7, and the process involved descriptive statistics.

RESULTS

The total number of deliveries during the 26 months study period was 2045. There were 41 ectopic pregnancies. The incidence was therefore 20/1000 births.

Table 1 shows the patient characteristics. The mean age was 32,26years. The peak age of incidence was the 30–39 years age group. One patient was 52 years old.

Table 2 reveals the major risk factors amongst patients in the study. The commonest risk factors identified were previous genital infection. (n=17; 41,46%) previous induced abortions (n=15; 36,58%) and the age ≥ 35 years old (n =16; 39,02%).

The most frequent presenting clinical complaints were abdominal pain (n=39. 95,12%). Table 3 illustrates a summary of the clinical profile of the patients on admission. Amenorrhoea was found in 36 women 87,80% and 68,29% had metrorrhagia. We found an average of 8 weeks’ gestation (minimum: 5 and 12 maximum).

Table 1: Patient characteristics.

	Frequency (n)	Proportion (%)
Age (years)		
< 20	1	2.43
20-29	11	26.82
30-39	24	58.53
≥ 40	5	12.19
Gestate		
1	6	14.63
2-3	19	46.34
≥4	16	39.03
Parity		
Nulliparous	18	43.90
1	7	17.07
2-3	5	12.2
≥ 4	11	26.80

Table 2: Risk factors of patients with ectopic pregnancy.

	Frequency (n)	Proportion (%)
Age ≥ 35 years old	16	39.02
Previous induced abortions	15	36.58
Previous ectopic pregnancy	3	7.31
Previous abdominal /pelvic surgery	6	14.63
Previous genital infection	17	41.46
Contraception		0
Intrauterine contraceptive device	2	4.87
Microprogestatif	5	12.19
History of infertility	1	2.43
Smoking	1	2.43

Table 3: Clinical signs.

	Frequency (n)	Proportion (%)
Metrorrhagia	28	68.29
Abdominal pain	39	95.12
Amenorrhoea	36	87.80
Adnexal mass	2	4.88
Abdominal tenderness	34	82.93
Cardio-vascular collapse (shock)	11	26.83

Twenty seven patients (n=11) did not have a quantitative measurement of the β subunit of human chorionic gonadotropin (β-hCG) because they were transferred

directly to surgery. For the others, the β -hCG levels were positive.

Pelvic ultrasound (transabdominal) was performed on all patients. The presence of an adnexal mass in the absence of an intrauterine pregnancy on transabdominal sonography was shown in 21.95% cases and 11 (26.82%) were found to have an unruptured ectopic pregnancy.

Management option adopted for patients in the study is shown in Figure 1. The majority of patients had a laparotomy (n=35, 85.36%). There were 2 (5%) ovarian pregnancies, 1 (3%) abdominal pregnancies. 29 (70%) of the tubal pregnancies were a mpullary, 1 (3%) cornual, 3 (7%) isthmic and 5 (12%) fimbrial.

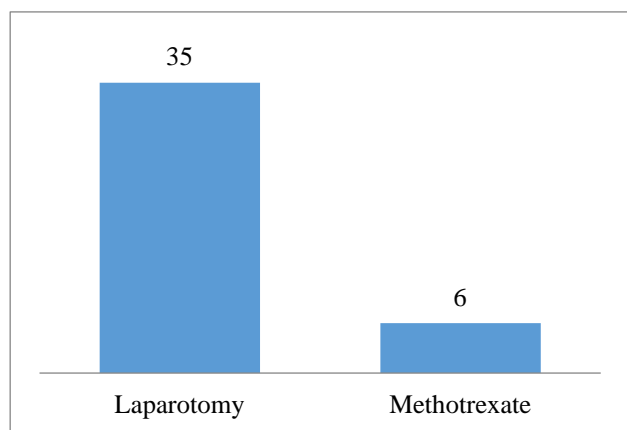


Figure 1: Management of ectopic pregnancy.

There was no mortality amongst the patients. Post-operative complications were few. Only 4 women (9.75%) had blood transfusion; One patient with methotrexate treatment required surgery. The mean duration of hospital stay was 4 days, with a range of 2-10 days.

DISCUSSION

In this review, the incidence of ectopic pregnancy was 20/1000 births. This is similar to the findings reported from other African cities.^{3,4} The incidence of ectopic pregnancy has increased worldwide. This increase is not unconnected with the increase in the incidence of pelvic infection, increasing rate of induced abortion, the practice of assisted reproduction and improvement in the diagnostic techniques for ectopic pregnancy.⁴

A significant number of patients (n=25; 60.97%) were of low parity (0-1). Several studies demonstrate that the risk increased consistently with maternal age and mostly in women of low parity.⁵⁻⁸

A large percentage of the patients in the study had one or more induced abortions (n=25; 60,97%), which are illegally performed in the community, because of the very restrictive laws on abortion in the country. This is

similar to the findings of Randriambololona DMA et al. but higher than the reported by Dembele (7%) and Iqraoun (6%).⁹⁻¹¹ Multiple induced abortions as risk factor for ectopic pregnancy is well established.^{12,13}

Previous abdominal/pelvic surgery was performed for 14.63% women. Surgery causes scarring as a complication followed by anatomical abnormality of the fallopian tubes, which prevent normal embryo transport. Pelvic adhesions and scarring can be the long-term complications of most of those surgeries.¹⁴

Regarding the clinical signs, similar finding for abdominal pain, amenorrhea and metrorrhagia are respectively relates to Table 4, 5 and 6.

Table 4: Literacy comparison on abdominal pain.

Country	Abdominal pain (%)
Degée et al ¹⁵ Belgique	100
Iqraoun et al ¹¹ Maroc	93.17
Dohbit et al ¹⁸ Tchad	86.1
Gabkika et al ²¹ Cameroun	84
This study Madagascar CENHOSOA	95.12

Table 5: Literacy comparison on amenorrhea.

Pays	Amenorrhea (%)
Degée et al ¹⁵ Belgique	62.8
Dohbit et al ¹⁸ Tchad	72
Randriambololona DMA et al ⁹ Madagascar	75.95
This review Madagascar CENHOSOA	87.80

Table 6: Literacy comparison on metrorrhagia.

Pays	Metrorrhagia (%)
Degée et al ¹⁵ Belgique	31
Dohbit et al ¹⁸ Cameroun	42.2
Gabkika et al ²¹ Tchad	72
Iqraoun et al ¹¹ Maroc	82.6
This work Madagascar CENHOSOA	68.29

In this study, 82.92% had abdominal tenderness. Iqraoun and al reported 43.48% abdominal tenderness in 2016.¹¹ Majority of our patients came in the hospital at a late stage with ruptured ectopic pregnancy. Or they can have the notable habit of not consulting only in case of an acute or life-threatening medical problem.

Eleven patient (26.83%) had presented in shock. our results are consistent with previous reports from developing countries and African reports. Dembele A, in Mali, found 36% shock cases; Randriambololona DMA et al., 26,16%. In contrast, the same year in Belgique, a

developed country, Degée et al, noted 2.06% cases.^{9,10,15} Late reporting by the patients caused delays in diagnosis. For women who present in shock, immediate surgery after resuscitation is both diagnostic and therapeutic. This requires immediate resuscitation of such patients with intravenous fluid and blood, emergency laparotomy with salpingectomy, and conservation of the ovaries, as was done for the majority of our patients as life-saving measures.

Laparoscopic surgery can be used both for diagnosis and treatment of unruptured ectopic pregnancy, provided there are no contraindications.¹⁶ However, the center lacked functional diagnostic and therapeutic laparoscopic equipment for this modality of management.

Pelvic ultrasound (transabdominal) was performed on all patients. Diagnostic accuracy is better if the transvaginal route is used for ultrasound examination. Several observational studies showed that the presence of an adnexal mass on transvaginal ultrasound is highly specific for tubal pregnancy. However, Transabdominal sonography is still widely used in emergency departments.¹⁷

Ruptured ectopic pregnancy was found in 73.17% cases. This is similar to established patterns reported in African studies. Randriambololona DMA related 71.03% cases; 84.97% for Iqraoun and 87.62% cases for Dohbit et al.^{9,11,18} This fact strengthens the time delay in making the diagnosis. Patients came into the hospital at late stage either by negligence of the patients in front of their symptoms or by the misdiagnosis

Medical treatment with systemic methotrexate is considered an acceptable management option for women presenting with few clinical symptoms, a small ectopic pregnancy on ultrasound scan, and low serum HCG values. However, its role is limited in clinical practice because only 25-30% of the total number of ectopic pregnancies satisfies criteria for medical treatment.^{19,20} In this study, medical treatment Was noted for 14.64% cases.

CONCLUSION

This study had shown the time delay in making the diagnosis and management ectopic pregnancy. Health educations on early presentation in hospitals are expected to reduce the incidence of EP and the consequent loss of reproductive potential. The majority of risk factors we identified can be early detected and treated such as to prevent sexually transmitted infection and unwanted pregnancies, thereby reducing the incidence of pelvic infection and postabortal complications.

ACKNOWLEDGEMENTS

Authors would like to thank all the women who participated in this study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Randriamahavonjy R, Rabarikoto HF, Mahefarisoa FNAT, Tanjona A, Ratsiatosika TA, Andrianampanalinarivo HR. Ectopic pregnancy at Soavinandriana hospital center, Antananarivo, Madagascar. *Int J Res Med Sci* 2018;6:2596-600.