




**ORIGINAL RESEARCH**

**ECTOPIC PREGNANCY: FROM EPIDEMIOLOGY TO  
MANAGEMENT AT THE REGIONAL HOSPITAL OF  
NGAOUNDERE (CAMEROON)**

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**ABSTRACT**

Ectopic pregnancies constitute one of the principal complications of pregnancy. Their clinic is polymorphous with consequences such as infertility and death reliable to late diagnosis. The aim of this study was to determine the state of ectopic pregnancy in our context and to propose concrete actions that will permit a rapid diagnosis so as to ameliorate its management at the regional hospital of Ngaoundéré (RHN). As such, we carried out a descriptive cross-sectional, prospective and retrospective design study going from January 2008 to August 2017 in the gynecological unit of the RHN. We had a sample size of 373 cases of ectopic pregnancies within study period. The data analysis was done by the means of the software's Microsoft office tools and Sphinx Plus<sup>2</sup> v.5.1.0.6. A prevalence of 1.21% obtained and the most represented age group was that of 20 to 32 years with a rate of 69.1%. The most incriminated risk factor was a pelvic surgical history. Clinically the most reveal signs and symptoms was a pelvic pain in 96.51%. Tubal rupture was observed in 72.39% of the cases and the treatment of these ectopic pregnancies was possible through radical surgery in 94.10%. No death report due to ectopic pregnancy throughout study period.

**KEY WORDS:** Ectopic Pregnancy, Regional Hospital of Ngaoundéré, Cameroon

**RESUME**

Les grossesses ectopiques (GE) constituent l'une des principales complications des grossesses. Leur clinique est polymorphe, avec pour conséquences l'infertilité et la mort liée au diagnostic tardif. Le but de cette étude est d'en faire l'état des lieux et proposer des actions qui permettront un diagnostic précoce et en améliorer la prise en charge à Hôpital Régional de Ngaoundéré. Nous avons mené une étude rétrospective et prospective, descriptive transversale de Janvier 2008 à Août 2017 au service de Gynéco – obstétrique. Au total, 373 cas de Grossesses Ectopiques (GE) ont été prises en charge pendant cette période. L'analyse statistique s'est faite grâce au logiciel Microsoft Excel 2010 et Sphinx Plus<sup>2</sup> v.5.1.0.6. Nous avons obtenu une prévalence de 1,21%. La tranche d'âge de 20 à 32 ans était la plus atteintes avec un taux de 69,1%. Le facteur de risque le plus incriminé était l'antécédent de chirurgie pelvienne. Sur le plan clinique le signe fonctionnel le plus rencontré était la pelvi-algie à 96,51 %. Le stade de rupture tubaire représentait 72,39 % des cas. Le traitement se faisait à 94,10 % par chirurgie radicale. Nous n'avons enregistré aucun cas de décès suite à cette pathologie.

**MOT CLÉ :** Grossesses Ectopiques, Hôpital Régional de Ngaoundéré, Cameroun.

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## INTRODUCTION

An ectopic pregnancy is a pregnancy that is not in the uterus. The fertilized egg settles and grows in any location other than the inner lining of the uterus [1]. Ectopic pregnancies constitutes one of the major complications of the first term of pregnancy [2]. Considerable progress have been made in the diagnostic plan and the therapeutic plan so as to ameliorate the management of this affection [3]. It has become of the first affection to eliminate before a pregnant women in his first term of pregnancy presenting a pelvic pain, a vaginal bleeding and a choc [4], [5]. Sometimes symptomatology may be misleading rendering as such the clinical diagnosis difficult. Its clinic is polymorphous as well as its therapeutic methods. Fortunately, today, it is not the major cause of mortality in pregnant women as it used to be in the past [3]. The problem with ectopic pregnancy is related to the infertility caused by the act of salpingectomy during surgery and death related to cataclysmic hemorrhage avec a sudden rupture of the pregnancy [6]. Thus, life prognostic is threatened as the rapid diagnosis is sometimes difficult thought new means of investigations such as b-HCG and echography are used. Ectopic pregnancy is the most frequent cause of morbidity and sometimes mortality in women at age of procreation [7]. The aim of this study is to state the situation of ectopic pregnancy and to propose actions to ameliorate the management of this pathology at the regional hospital of Ngaoundéré. Moreover, the determination of the epidemiological and clinical aspects of this affection taking into account the therapeutic means of treatment for the specific case of the RHN will retain our main focus.

**General Objective:** Describe the epidemiological, clinical, therapeutic and prognostic aspects of ectopic pregnancy at the unit service of the gyneco-obstetric regional hospital of Ngaoundéré.

**Specific objectives :** 1- Determine the epidemiological and clinical profiles of ectopic pregnancy. 2- Determine the therapeutic means of management of ectopic pregnancy

## METHODOLOGY

### - Type and period of study

It was a descriptive cross-sectional prospective and retrospective design study that went from January 2008 to August 2017

### - Period of data collection and location

Data were collected within a period of 4 months going from April 1st 2017 to July 31st 2017 at the regional hospital of Ngaoundéré.

### - Target population

All consultations of the service of gynecology concerning women in age of procreation with pelvic pain and all the medical files of patients admitted for a medical care of ectopic pregnancy in the same unit of service.

Inclusion criteria: admitted consented patients managed for ectopic pregnancy within the period of May to August 2017 and the medical files of patients admitted with a diagnosis of ectopic pregnancy from the period of January 2008 to May 2017

Non-inclusion criteria: incomplete medical files, false diagnosis of ectopic pregnancy and non-consented patients.

### - Study tools

We used: registers of gynecologic consultations, prepared individual data collection files, guard duty reports, patients medical file, reports of surgical procedures, consent files.

### - Statistical analysis

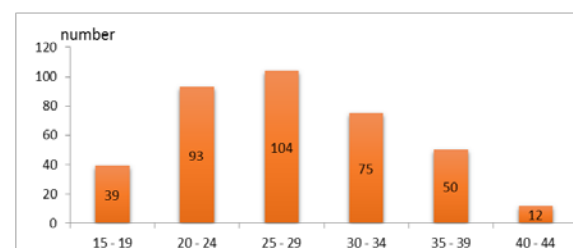
It was made possible by the means of Sphinx Plus<sup>2</sup> v5.1.0.6 and Microsoft office tools. Collected data were registered and analyzed by Sphinx Plus<sup>2</sup> v5.1.0.6 and Microsoft Excel 2007 permitted us to presents results in graphs and figures and tables.

## RESULTS

### 1- Epidemiology

- **Prevalence:** During this design study period, we recorded 373 cases of ectopic pregnancies for 30 911 births, either a prevalence of 1.21%.

- **Age:** The figure below shows that, the most represented age group of this study design was that of the ages 25 to 29 years with a percentage of 27.88%. The youngest patient had 15 years and the oldest 44 years. The mean age of the sample was 27.54 years.



**Figure 1:** distribution of ectopic pregnancy by age

### - Gestation age

The mean gestational age of the sample was 8.94 weeks of amenorrhea with a minimum of 4 weeks of amenorrhea and a maximum of 28 weeks of amenorrhea. The majority of the patients' gestational age varied between 7 to 9 weeks of amenorrhea, either 45.58% as shown in the table below.

**Table1:** distribution of patients gestational age

Gestational age (weeks)	Number of cases	Frequency (%)
4 – 6	44	11.79
7 – 9	170	45.58
10 – 12	74	19.84
>13	85	22.79

### - Medical history of patients and their risk factors

The table below reveals that, the greatest risk factor is a past of pelvic surgery in 113 patients with 30.29%. Whereas, the least incriminated risk factor here is a past ectopic pregnancy, recorded among 15 women only with a percentage of 4.02%.

### - Functional signs

Vaginal bleeding and pelvic pain represented the most frequent symptomatology with respective percentages of 88.47% and 96.51% as shown in the table below.

**Table 2:** distribution of patients following functional signs

Functionnal signs	Nombre of cases	Frequency (%)
Vaginal bleeding	330	88.47
Amenorrhoea	152	41.75
Choc	94	25.20
Pregnancy symptoms	91	24.40
Pelvic pain	360	96.51

**-Physical signs****Table 3:** distribution of patients following physical signs

	Characteristics	Nombre of cases	Frequency (%)
<b>State of the abdomen</b>	Soft	104	27.88
	Sensitive	143	38.34
	Abdominal defense	126	33.78
<b>State of cervix</b>	Open	24	6.43
	Close	327	87.67
	Not precised	22	5.9
<b>Uterine height</b>	Normal	205	54.96%
	Increased	151	40.48%
	Not precised	17	4.56%
<b>State of annexes</b>	Normal	182	48.79
	Empattement	76	20.38
	MLU	50	13.40
	Not precised	65	17.43
<b>Douglas cry</b>	Positive	292	78.28
	Negative	81	21.72

**2- Therapeutic aspect****- Anatomic situation**

The large majority of ectopic pregnancies occurred in the fallopian tube. It was the case of 361 patients with 96.78%. However, they can occur in other anatomic locations, such as the ovary, cervix and abdominal cavity as shown in the table below.

**Table 4:** anatomic locations of ectopic pregnancies

Anatomic location	Number of cases	Frequency (%)
Fallopian tube	361	96.78
Heterotopic	1	0.27
Ovarian	8	2.14
Abdominal	3	0.80

**- Management**

The management of ectopic pregnancies at the RHN is exclusively surgical through laparotomy. Radical section of the concerned fallopian tube was practiced during surgery in 94.10%, either for 351 women and just 22 women had conservatory surgery of the concerned tube, either 5.90%.

**DISCUSSION****I- Epidemiology**

**- Prevalence:** The prevalence of ectopic pregnancy in this study is 1.21%, which corresponds to the percentage of developing countries that have values in between 1 and 2% [7]. These values are different from those of Kenfack and al.,(2012) in Sangmélina who obtained 3.45% above of the required percentage. It may be as such, regarding the exposition of women to risk factors.

**- Age:** The mean age of our sample was 27.54 years with the age group of 25 to 29 years mostly represented, with a rate of 27.88%. Obtained results are similar to that of kenfack and al., (2012) [7] and dohbit and al., (2010) [2] who obtained 31.08% for those between 25 to 29 years and 31.2% for those between 25 to 30 years respectively. Results are similar for both cases and may be as a result of the desire of procreation of individuals at this ages. It is known that the pic of procreation is within the range of 20 to 32 years as mentioned in books [2;3;4;7]

**- Gestational age:** In this design study, the mean gestational age is 8.94 weeks with 45.58%. this result is similar to that of kenfack and al., (2012) who found a mean

age of 8.14 weeks in his study [7], but different to that of boudhraa and al.,(2008) [8] who found a mean age of 6.6 weeks of amenorrhea. This difference may be as a result of late diagnostic difficulties our hospitals are faced with.

**- Medical history:** We recorded variable risk factors in the course of this study amongst which in certain patients several risk factors were related in association to one another. It is a multifactorial pathology [5]. The most represented risk factor was pelvic surgery with 30.29%. this result is different to those obtained in specialized hospital centers dealing with the management of ectopic pregnancies: Iqraoun (2016) [4] found that risk factors were related to oral contraception's (28.57%); Amal (2009) [9] instead found IVG with a rate of 15.9% as well as Wafae (2009) [10] with 31.6%. These differences may be as a result of the focus of practitioners more on symptoms than a deep medical history of the patients which may be of great importance here.

**- Functional signs:** Ectopic pregnancy is clinically heterogeneous. Its signs are not always typical, but the clinic corresponds to a triad: amenorrhea, pelvic pain and vaginal bleeding

**Amenorrhea:** This design study reveals that, amenorrhea was observed in 40.75%, which is different from that of Amal [9] who obtained 68.8%, and Wafae who obtained 78% [10] both in 2009. This difference may be the consequence of the sample size concerned in both studies.

**Choc:** Choc was present in 25.20% of the whole sample. Results differs from that of Wafae [10] who obtained 12.5% choc. The difference here may be as a result of the difference in diagnostic means and rapid medical care of patients at the RHN compared to that of Wafae in marracheck.

**II- Therapeutic aspect**

The management is principally surgical, and laparotomy is the most used technic of medical care as refered to the reviews of this country through the studies of Kenfack and al., and Dohbit and al., [2;7]. This treatment remains the most practiced and sure means of care as no death was recorded throughout study period.

**- Anatomic locations :** This study reveals that, the fallopian tube was the main location of the pregnancy in 95.78% with ampulla fixation in 60.05%. Results corresponds to that of Mohamed in 2006 who found 60% ampulla fixation of ectopic pregnancy [3]. Abdominal location was observed in 0.80% whereas ovarian location

was observed in 2.14. Heterotopic pregnancies or combined pregnancies are rare, though one case was recorded. Its diagnosis is generally made possible through echography but as for this study, it was during the surgical laparotomy.

- **Prognostic:** Throughout this design, no death have been recorded which is also the case of many scientific reviews [2;3;4;7;9;10].

## CONCLUSION

Coming to the end of this design study carried out at the RHN, we can say that ectopic pregnancy is a frequent case of affections in women with a prevalence of 1.21%. It concerned mostly women of age between 20 to 32 years

## AUTHORS' CONTRIBUTIONS

The participation of each author corresponds to the criteria of authorship and contributorship emphasized in the [Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly work in Medical Journals](#) of the [International Committee of Medical Journal Editors](#). Indeed, all the authors have actively participated in the redaction, the revision of the manuscript and provided approval for this final revised version.

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