

## Management of Extra-Uterine Pregnancies at the Community Clinic

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### Abstract

Ectopic pregnancy (EP) is an obstetric emergency affecting women in the first trimester of pregnancy. We decided to find out more about the management of these women. This was a cross-sectional study over a period of 6 months, from 1st November 2022 to 29th April 2023, covering patients operated on and medically treated for EP at the Community University Hospital(CHUC). During this period, we recorded 103 cases of ectopic

pregnancy out of 1659 deliveries, representing a frequency of 6.2%. Patients under 35 years of age were the most common (88.3%). The majority of our patients had reached secondary school (54.4%) and were multiparous (33%). The gestational age of 8 - 12 SA was the most affected at the time of consultation. Radical surgery remains the most widely used treatment, accounting for 84.2% of cases in our study. Ectopic pregnancy is an extreme obstetric emergency in the first trimester which requires appropriate management. The best treatment is primary prevention by avoiding risk factors.

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**Keywords:** Ectopic pregnancy, risk factors, treatment

## **Introduction**

Ectopic pregnancy (EP) is a frequent cause of morbidity and mortality in the first trimester of pregnancy in women of childbearing age. Its aetiology remains uncertain and its diagnosis is often difficult (Sepou, 2003 ; Kirk, 2009). It is defined as implantation and development of the egg outside the uterine cavity. Generally, the fertilised egg cannot travel down the fallopian tube to implant in the uterine cavity. Because it is a gynaecological emergency, early diagnosis can prevent it from rupturing and threatening the woman's life (Kirk, 2009). Its incidence continues to rise worldwide, due to a number of factors, including the high prevalence of sexually transmitted infections (STIs) (Assoumou, 2022). In France, it is estimated that 15,000 women will have an EP each year, of whom 2 to 5 will be fatal; around 400 will have subsequent fertility problems and 1,000 will require assisted reproduction (AMP) (Fernandez , 2010) .In sub-Saharan Africa, the incidence of EP remains high, at 2.41% in Chad and 3.45% in Cameroon (Gabkika, 2015 ; Kenfack, 2012).

In Central African Republic, an initial study was carried out in 2003 in the same department. same department, in which the frequency of EP was 1.6% (Sepou, 2003). Over the past twenty years, with improvements in the technical improved technical facilities, enabling better management of EP, we would like to reassess the we would like to reassess the various factors influencing the occurrence of EP. The aim of our study is to contribute to the improvement of the management of pregnancies at the Bangui CHUC.

## **Materials and methods**

This was a cross-sectional study that we conducted over a period of six (6) months, from 1 November 2022 to 30 April 2023. The study population consisted of pregnant women in their first trimester. The inclusion criteria were pregnant women who had been diagnosed with an ectopic pregnancy and who had received medical or surgical care in the

obstetrics and gynaecology department of the CHUC in Bangui during the study period. The different variables studied were: sociodemographic characteristics (age group, gestational age, parity), previous history (EP, voluntary termination of pregnancy (IVP), salpingitis, endometritis). The data were analysed in terms of their clinical (functional signs, general and physical signs) and paraclinical (plasma Beta HCG, urine pregnancy test, haemoglobin level, pelvic ultrasound) aspects, management and prognosis. The data were compiled, validated and analysed using Epi info 7.2.2.6 software.

## Results

The incidence of ectopic pregnancy was 6.2% for 1659 pregnant women registered in the first trimester.

**Table I :** Breakdown of patients by age and level of education

Age groups	Number n=103	Percentage
15 to 19 years old	2	2
20 to 24 years old	23	22,4
25 to 29 years old	31	30
30 to 34 years old	35	34
≥ 35 years old	12	11,6
<b>Level of éducation</b>		
Out of school	10	9,7
Primary	25	24,3
Secondary	56	54,4
Superior	12	11,6

**Table II :** Distribution of patients according to gestational age, parity and history

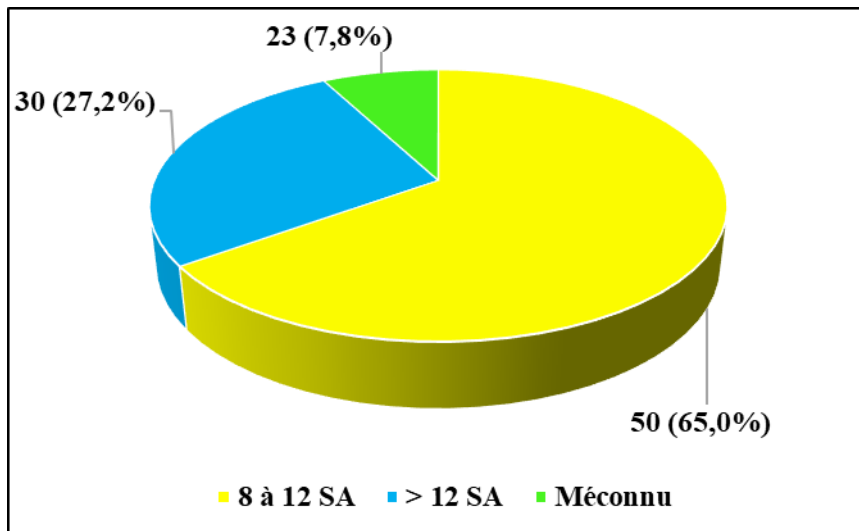
Parameters	Number (n =103)	Percentage
<b>Gestité</b>		
Primigeste (1 Pregnancy)	11	10,7
Paucigeste (2 to 3 Pregnancies)	17	16,5
Multigeste (4 to 6 Pregnancies)	75	72,8
<b>Grande mutigeste (≥7 Pregnancies)</b>	0	0
<b>Parity</b>		
Nulliparous (No childbirth)	20	19,4
Primiparous (1 birth)	22	21,3
Paucipare (2 to 3 births)	27	26,2
Multiparous (4 to 6 births)	34	33
<b>History</b>		
Salinity	50	48,5
Clandestine abortions	43	41,8
Extra- uterine pregnancy	10	9,7
<b>Total</b>	<b>103</b>	<b>100</b>

**Table III : Breakdown of patients by type of treatment**

<b>Medical treatment</b>	<b>Number</b>	<b>Percentage</b>
<b>n=103</b>		
Methotrexate	2	1,9
Blood transfusion required	85	82,5
Blood transfusion not necessary	16	15,6
<b>Surgical treatment</b>		
<b>n=101</b>		
Total salpingectomy	85	84,2
Annexectomy	16	15,8
<b>Blood loss values</b>		
<b>n=101</b>		
<1 litre	16	15,8
1 to 2 litres	40	39,6
2 to 3 litres	40	39,6
>3 litres	5	5

**Table IV : Breakdown of patients by location**

<b>Location</b>	<b>Number (n=101)</b>	<b>Percentage</b>
<b>Tubal</b>		
Ampullary	56	55,4
Isthmic	25	24,7
Infundibular	4	4
<b>Not specified</b>	12	11,9
<b>Ovarian</b>	2	2
<b>Abdominal</b>	2	2

**Figure 1 :** Distribution of patients by gestational age of pregnancy.

### Maternal and foetal prognosis

During our study, we did not record any cases of death related to the management of EP. However, 9.7% of patients had a poor obstetrical prognosis due to a history of contralateral salpingectomy.

## **Discussion**

### **Frequency**

Ectopic pregnancy (EP) is a pathology which constitutes an obstetric emergency. It is becoming increasingly common in Africa. In our study, we found a frequency of 6.2% (1 EP for 16 pregnancies). Sépou in 1998 in the same department, found a frequency of EP (1 case for 61.8 deliveries and 1 case 114 gynaecological and obstetric interventions) (Sepou, 2003). This difference can be explained by the fact that sexually transmitted infections are becoming increasingly widespread, and treatment is poorly organised. This contributes to sequelae, which are thought to be the cause of the increasingly frequent EPs. This rate was also higher than that found by Bangambe in Kinshasa (1.56%) and Gabkika in N'Djamena (2.4%) (Bangambe, 2016 ; Gabkika, 2015).

### **Socio-economic characteristics**

Age is a determining factor in the occurrence of pathologies in the 1st trimester of pregnancy. Women of childbearing age are sexually active and likely to contract sexually transmitted infections (STIs). These infections favour the onset of EP via a sequelae mechanism in the tubal anatomy (Fernandez, 2005). The pregnant women included in our study ranged in age from 15 to 43 years. The average age was 28.2 years. The predominant age group was 30-34 years. This age range was slightly higher than that found in a study carried out in the same department in 1998 by Sépou, which was (20-29 years) with an average age of 26.8 years (Sepou, 2003) . Our mean age was similar to that of Traoré in Mali (28.3 years) (Traore, 2021). Several authors have found an average age close to ours (Gabkika, 2015 ; Sanogo, 2012 ; Belley, 2009 ; Essiene Obono, 2022 ; Balde, 2014). The older a woman gets, the more likely she is to develop various pathologies that can cause tubal sequelae leading to EP. However, some authors have shown that EP is occurring in younger and younger patients (Sepou, 2003 ; Cisse, 2002). Education determines a population's level of understanding, especially when it comes to adopting preventive health measures. Knowledge of STIs and other risk factors for the occurrence of EP is of great importance in prevention. Certain professions influence the occurrence of EP, and some women, particularly unemployed women and prostitutes with multiple partners, develop STIs and unwanted pregnancies leading to voluntary termination of pregnancy. Most of the women surveyed had completed secondary education. The same observation was made by Essiene in Talangäi and Dohbit in Bafoussam (Essiebe Obono, 2022 ; Dohbit, 2010). In Ségou, on the other hand, Traore found in her series that women had a low level of education (40% at primary level). This can be explained by the fact that the town of Ségou is located in a rural area where access to schooling is

poor (Traore, 2022). Our study was carried out in Bangui, an urban area, in a referral health facility. In terms of occupation, most of the women surveyed were housewives. This precarious situation, linked to the low income of housewives, means that they are unable to cover their basic needs, including health. This exposes them to risk factors.

### **Gender, parity and gynaecological history**

According to Mittelmark, parity does not influence the occurrence of ectopic pregnancy (Mittelmark, 2022). In our series, most of the women were multigestational and multiparous, with an average parity of 2.9. This average parity is almost the same as that found in the same department in 1998 by Sépou et al. We found more nulliparous women than this same author, 19.4% versus 12.1% (Sepou, 2003). This explains the high fertility of Central African women (PNDS, 2006-2015). Bangambe in the Democratic Republic of Congo found a predominance of multiparous women in his series, although their proportion (21.8%) was lower than ours (33.0) (Bangambe, 2016). This can be explained by the fact that in both our country and the DRC, young girls of childbearing age have sex at an early age. They become multiparous at a young age (Sepou, 2002 ; Sepou, 2004). The case history was used to highlight the various risk factors for EP and to determine the profile of the patients. The risk factors found were PID and elective abortion. In Libreville, PID was the most common risk factor (25.1%) (Assoumou, 2022). PID often leaves sequelae, which may favour the occurrence of an EP. The most common history of PID found by Sépou et al was gonococcal infection in women with multiple partners (Sepou, 2003). In developing countries, including our own, upper genital infections are more likely to cause tubal anomalies, which may be the result of STIs or clandestine abortions under poor aseptic conditions (Sepou, 2003 ; Assoumou, 2022).

### **Management**

Management of EP depends on the stage at which it is diagnosed. It must be multidisciplinary, involving an intensive care anaesthetist, an obstetric gynaecologist and the entire operating theatre team. There are two aspects to this treatment: one medical (before rupture) and the other surgical (after rupture).

A great deal of progress has been made worldwide in improving the management and prognosis of EP. Since Tanaka's publication in 1982 (Toshinobu Tanaka, 1982) , medical treatment of EP with methotrexate has developed and has become a possible alternative to surgical treatment in certain situations (Cassik, 2005) . The review of the African literature did not report any of the cases studied, but rather Western data are available. Two

patients (1.9%) met the clinical and paraclinical criteria for medical treatment in our series. These patients were treated with methotrexate for one month.

For the other patients, management of the EP was based on medical resuscitation before, during and after the operation. This resuscitation was based on blood transfusion. In our study, with a view to restoring the haemodynamic state, 82.5% of pregnant women had received a blood transfusion consisting of bags of iso group, iso rhesus whole blood. The others, who were haemodynamically stable, were not transfused. The transfusion rate was higher than in Kinshasa (72.3%) and Cotonou (74%) (Bangambe, 2016 ; Perrin, 1997). However, it was lower than that of Cissé in Dakar (82%) (Cisse, 2002). These rates, which vary from one author to another, reflect the early diagnosis of EP, tolerance of anaemia in some patients with haemoglobin levels of around 7g/dl, and the availability of a blood bank in the various health facilities. The treatment of EP is exclusively surgical. It consists of performing a total salpingectomy with wedge-shaped resection. Total salpingectomy was the most commonly performed procedure.

In 2022, Assoumou in Gabon performed salpingectomy in 83.3% of cases of EP (Assoumou, 2022), a percentage close to that achieved in our study. Other authors, such as Nayama and Randriambololon, also found salpingectomy to be the majority procedure in their studies (Nayama, 2006 ; Randriambololona, 2012). According to all these studies, we note a preference for radical treatment (salpingectomy), as a rapid and effective treatment in the face of the urgent picture presented by the patients.

### **Location of ectopic pregnancy**

The location of tubal rupture varies according to gestational age. In ampullary pregnancies, tubal rupture occurs late, between 8 and 12 weeks' gestation. In isthmic or interstitial pregnancies, it occurs a little earlier. In our series, the majority of ruptured EPs occurred between 8 and 12 weeks' gestation (48.5%), and the majority were ampullary (55.4%). Our data were similar to those of Bangambe, which were between 11 and 12 weeks' gestation and mostly ampullary (57.7%) (Fernandez, 2010). On the other hand, Meye in Gabon found an average of 8.4 SA, a predominantly isthmic location which ruptures earlier (Meye, 2002).

### **Conclusion**

Our study at the CHU Communautaire showed that ectopic pregnancy is on the increase in our country. This pathology of the 1st trimester of pregnancy affects patients of childbearing age. The main risk factor is an increasingly frequent upper genital infection. Diagnosis is almost

always late, so there is little choice of treatment. Radical surgical treatment is difficult because it compromises the woman's obstetrical future.

**Conflict of Interest:** The authors reported no conflict of interest.

**Data Availability:** All data are included in the content of the paper.

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