

Management of Ectopic Pregnancies at the Community University Hospital Center (CUHC) in Bangui, Central African Republic

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Abstract

Introduction: Ectopic pregnancy (EP) is an obstetrical emergency that affects women in the first trimester of pregnancy. We decided to find out more about the care of these women. **Methodology:** This was a cross-sectional study over a period of 6 months, from November 1st, 2022 to April 29th, 2023, covering both operated patients and medically treated for EP at the

Community University Hospital Center (CUHC). **Results:** During this period, we recorded 103 cases of ectopic pregnancy out of 1659 deliveries, representing a frequency of 6.2%. Patients under 35 years old were the most represented (88.3%). The majority of our patients had reached secondary school (54.4%) and were multiparous (33%). The gestational age of 8 – 12 weeks was the most affected during the consultation. **Conclusion:** Radical surgery remains the most used therapeutic method with 84.2% of cases in our study. Ectopic pregnancy is an extreme obstetrical emergency of the first trimester that requires adequate care. The best treatment is primary prevention by avoiding risk factors.

Keywords: Ectopic pregnancy, risk factors, treatment

Introduction

Ectopic pregnancy (EP) is a common cause of morbidity and mortality in the first trimester of pregnancy in women of childbearing age. Its etiology remains uncertain and its diagnosis is often difficult (Sépo, 2003; Kirk, 2009). It is defined as the implantation and development of the egg outside the uterine cavity. Generally, the fertilized egg cannot pass through the fallopian tube and is implanted in the uterine cavity. Being a gynecological emergency, its early diagnosis makes it possible to avoid its rupture and the threat to the woman's vital prognosis (Kirk, 2009). Its incidence continues to increase across the world, due to various factors, including the high prevalence of sexually transmitted infections (STIs) (Assoumou, 2022). In France, it is estimated that 15,000 women will have EP each year, 2 to 5 of them will have a fatal outcome; Around 400 will have problems with later fertility and 1000 will have to resort to medically assisted procreation (MAP) (Fernandez, 2010). In sub-Saharan Africa, the frequency of EP still remains high, at 2.41% in CHAD, and 3.45% in Cameroon (Gabkika, 2015; Kenfack, 2012). In the Central African Republic, the first study was carried out in 2003 in the same department, where the frequency of EP was 1.6% (Sépo, 2003). Twenty years later the improvement of the technical platform allows better management of GEU, we want to reassess the different determinants impacting the occurrence of EP. The aim of our study is to contribute to improving the management of ectopic pregnancies at the CUHC of Bangui.

Materials and methods

This was a cross-sectional study that we carried out over a period of six (6) months, from November 1st, 2022 to April 30th, 2023. The study population was full of pregnant women in the first trimester of pregnancy. The inclusion criteria were pregnant women whose diagnosis of ectopic pregnancy

was made and who received medical or surgical treatment in the Gynecology-Obstetrics department of the CUHC of Bangui during the study period.

The different variables studied were: sociodemographic characteristics known as: (age group, gestation, parity), history (EP, Voluntary Termination of Pregnancy (VTP), Salpingitis, Endometritis), clinical aspects (functional signs, general and physical signs) and paraclinical (HCG beta plasma, urine pregnancy test, hemoglobin level, pelvic ultrasound), management and prognosis. The data were compiled, validated, and analyzed using Epi info 7.2.2.6 software.

Results

Frequency

The frequency of EP was 6.2% for 1659 pregnant women recorded in the first trimester of pregnancy.

Table I: Distribution of patients according to age and level of education

Age group	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 à 34 years old	35	34
≥ 35 years old	12	11.6
Education level		
Unschooling	10	9.7
Primary	25	24.3
Secondary	56	54.4
High school	12	11.6

Table II : Distribution of patients according to the gravidity, Parity and the History

Parameters	Number (n =103)	Percentage
Gravidity		
Primigravida (1 pregnancy)	11	10.7
Paucigravida(2 to 3 pregnancies)	17	16.5
Multigravida (4 to 6 pregnancies)	75	72.8
Grand multigravida (≥7 pregnancies)	0	0
Parity		
Nullipare (no childbirth)	20	19.4
Primipara (1 childbirth)	22	21.3
Pauci para (2 to 3 childbirth)	27	26.2
Multipara (4 to 6 childbirth)	34	33
History		
Salpingitis	50	48.5
clandestine abortion	43	41.8
Ectopic pregnancy	10	9.7
Total	103	100

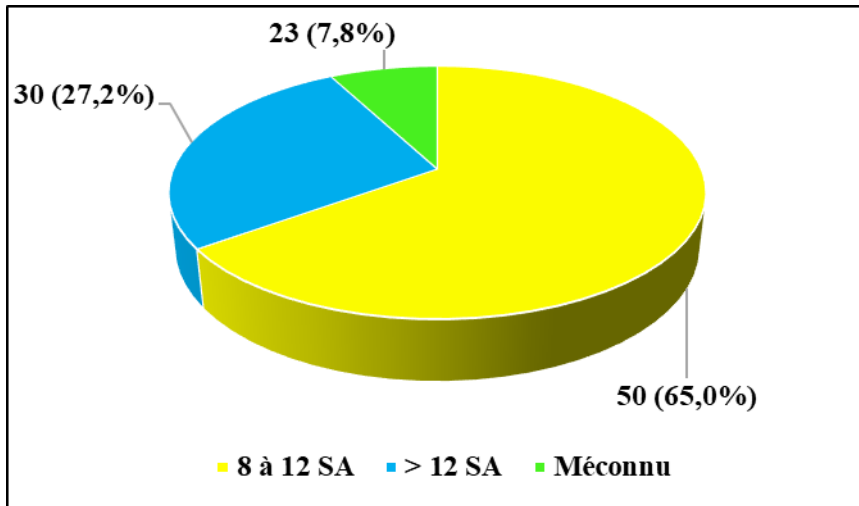


Figure 1: Distribution of patients according to the gestational age of pregnancy

Table III : Distribution of patients according to the management

Treatment	Number	Percentage
Medical	n=103	
Methotrexate	2	1.9
blood transfusion required	85	82.5
Blood transfusion no required	16	15.6
Surgical Treatment	n=101	
Total salpingectomy	85	84.2
Adnexectomy	16	15.8
Value of Lost blood	n=101	
<1 liter	16	15.8
1 à 2 liters	40	39.6
2 à 3 liters	40	39.6
>3 liters	5	5

Table IV : Distribution of patients according to the locations

Locations	number (n=101)	Percentage
Tubal		
Ampullary	56	55.4
Isthmic	25	24.7
Infundibular	4	4
Not specified	12	11.9
Ovarian	2	2
Abdominale	2	2

Maternal and fetal prognosis

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

Discussion

Frequency

Ectopic pregnancy is a pathology that constitutes an obstetrical emergency. It is becoming more and more 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 for 114 gynecological and obstetric interventions) (Sépou, 2003). This difference can be explained by the fact that sexually transmitted infections are increasingly widespread and treatment is poorly organized. This contributes to after-effects, which are believed to be the cause of 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 represents a determining factor in the occurrence of pathologies in the 1st trimester of pregnancy. Women at the childbearing age are sexually active and susceptible to sexually transmitted infections (STIs). These promote the occurrence of EP through a mechanism secondary to tubal anatomy (Fernandez, 2005).

The pregnant women included in our study were aged between 15 and 43 years old. The average age was 28.2 years. The predominant age group was 30 to 34 years old. This age range was slightly higher than that one found during a study carried out in the same department in 1998 by Sepou which was (20-29 years) with an average age of 26.8 years (Sépou, 2003). Our average age was similar to that one found by Traore 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 the woman is, the more exposed she is to the occurrence of various pathologies that can cause tubal issues leading to EP. However, some authors show that EP concerns increasingly younger patients (Sépou, 2003; Cissé, 2002).

Education determines the population's understanding, especially for the adoption of preventive measures in the field of health. Knowledge of STIs and other risk factors for the occurrence of EP is very important for prevention. Some jobs cause the occurrence of EP, including some women, particularly unemployed and prostitutes with many partners who develop STIs, and unwanted pregnancies leading to voluntary terminations of pregnancies. Most of the women surveyed have reached secondary school level. This same observation was found among authors Essiene in Talangai and Dohbit in Bafoussam (Essiebe Obono, 2022; Dohbit, 2010). On the other hand, in Segou, Traore noted in his series that women have a low level of education (40% at the primary level). This is explained by the fact that the city of Segou

is located in a rural area where access to the school is rare (Traore, 2022). Our study was carried out in Bangui in an urban area in a reference health structure. Our study was carried out in Bangui in an urban area in a reference health structure. In terms of profession, most of the women surveyed were housewives. This precariousness linked to the low income of housewives does not allow them to cover their vital needs, including health. This exposes them to risk factors.

Gravidity, Parity and Gynecological History

According to Mittelmark, parity does not influence the occurrence of ectopic pregnancy (Mittelmark, 2022). In our series, most women had multigravida and multiparous with an average parity of 2.9. This party's average is almost the same as that one found in the same department in 1998 by Sepou and al. We found more nulliparous than the same author, 19.4% versus 12.1% (Sépou, 2004). This explains the high fertility of Central African women (PNDS, 2006-2015). Bangambe in the Democratic Congo found in his series a predominance of multiparous women, even if their proportion (21.8%) is lower than ours (33.0) (Bangambe, 2016). This is explained by the fact that here and in the Democratic Republic of Congo, we note an early onset of sexual intercourse among young girls at the childbearing age. They become multiparous at a young age (Sépou, 2002; Sépou, 2004).

The history makes it possible to highlight the different risk factors for EP and to determine the patient profile. The risk factors found were salpingitis history and voluntary termination of pregnancy. In Libreville, salpingitis was the most common risk factor (25.1%) (Assoumou, 2022). Salpingitis often leaves after-effects, likely to promote the occurrence of EP. Salpingitis often leaves after-effects, likely to promote the occurrence of EP. The most common history found by Sepou and al is gonococcal infection in women with many partners (Sépou, 2003). In developing countries including ours, upper genital infections are the main cause of tubal anomalies which result from STIs or clandestine abortions in poor aseptic conditions (Sépou, 2003; Assoumou, 2022).

The management of EP

The management of GEU depends on the stage at which it has been determined. It must be multidisciplinary, involving a resuscitator anaesthetist, an obstetrician-gynecologist and the entire operating room team. This treatment includes two parts: a medical part (before rupture) and a surgical part (post rupture). Much progress has been made worldwide to improve the management and prognosis of EP. Since the publication of Tanaka in 1982 (Toshinobu Tanaka, 1982), medical treatment of EP with methotrexate has developed and established itself as a possible alternative to surgical treatment

in certain situations (Cassik, 2005). The review of African literature did not report a few cases studied but rather Western data are available. Two patients (1.9%) presented the clinical and paraclinical criteria for medical treatment in our series. These patients have benefited from treatment with Methotrexate for one month.

For the other patients, the management of EP was supervised by pre-, intra- and post-operative medical resuscitation. This resuscitation was based on blood transfusion. In our study, with the aim of restoring the hemodynamic state, 82.5% of pregnant women had benefited from blood transfusion. The others who had a stable hemodynamic state were not transfused. The transfusion rate is higher than the data from Kinshasa (72.3%) and Cotonou (74%) (Bangambe, 2016; Perrin, 1997). On the other hand, it is lower than that of Cisse in Dakar (82%) (Cisse, 2002).

These rates are not the same among authors, resulting in the early diagnosis of EP, the tolerance of anemia in some patients with a hemoglobin level around 7g/dl and the availability of a bank of blood in the different health structures. The treatment of EP is exclusively surgical. It consists of performing a total salpingectomy with wedge resection. Total salpingectomy was the most commonly performed procedure. In 2022 Assoumou in Gabon, performed salpingectomy during the treatment of GEU in 83.3% (Assoumou, 2022). This percentage is close to that carried out during our study. Other authors: Nayama, Randriambololon also found salpingectomy in almost all 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 given to the urgent case presented by patients.

Locations of the ectopic pregnancy

The location of the tubal rupture depends on the gestational age. This is why, in ampullary pregnancies cases, tubal rupture occurs late between 8 and 12 weeks. In isthmic or interstitial locations it comes out a little more. In our series, most of our ruptured EPs were between 8 and 12 weeks (48.5%) and mainly ampullary (55.4%). Our data are similar to those of Bangambe which were 11 to 12 weeks and mainly ampullary (57.7%) (Fernandez, 2010). On the other hand, Meye in Gabon found an average of 8.4 weeks, a predominantly isthmic location that ruptures earlier (Meye, 2002).

Conclusion

Our study carried out at the Community University Hospital showed that ectopic pregnancy is increasing in our country. This pathology of the 1st trimester of pregnancy affects patients at the childbearing age. The increasingly frequent upper genital infection constitutes the main risk factor. The almost always late diagnosis offers few therapeutic choices. Radical

surgical treatment is cumbersome because it compromises the woman's obstetrical future.

Declaration for Human Participants : This study was approved by the Scientific and Ethics Committee of the CHU Communautaire, the Head of the Obstetrics and Gynaecology Department, and the Director of the CHU Communautaire, and the principles of the Helsinki Declaration were followed.

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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