

Complicated Abortions Admitted to the Obstetric Gynecology Department of the University Teaching Hospital Gabriel Touré: Management and Maternal Prognosis

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Abstract

Objective: To study the complications of abortion by describing the profiles of the patients and the management.

Methodology: It was a descriptive and analytical cross-sectional study with retrospective data collection over a period from January 2014 to December. We carried out an exhaustive sampling, taking into account all the patients admitted to the department for complications of abortion, whether spontaneous or induced. The information gathered on the survey sheets was entered and analysed using Microsoft Word versions 2013 and SPSS version 20.0. Pearson's Chi² test, Odds ratio, ICor, P <0.05 were used to contrast the data.

Results: We reported 795 cases of abortions out of 14,148 pregnancies, or a frequency of 5.6%, of which 12.3% of complicated abortions. These were early abortions (81.9%) and late abortions (18.1%). Spontaneous abortions accounted for 92.3% of cases, 10.6% of which were complicated and induced abortions (voluntary termination of pregnancy or VTP) 4.8%. Fifty percent of abortion complications occurred in the context of VTP. The mean age of the patients was 27.82 years and adolescent girls accounted for 16% of the cases. Complications were dominated by anemia (68.3%), hemorrhagic shock (25.5%), and endometritis 2.0% each. Management was mainly manual intrauterine aspiration (MIUA), blood transfusion (27.1%), and antibiotic therapy. Lethality from unsafe abortion was 7.9%.

Conclusion: Abortion complications are very common in our service, dominated by hemorrhagic shock and anemia. Lethality from unsafe abortion was 7.9%.

Keywords: Complicated abortions - Management – Prognostic.

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Introduction

According to the World Health Organization (WHO), abortion is an interruption of pregnancy by the spontaneous or induced expulsion of the embryo or fetus, before it has reached the threshold of viability, that is to say before the 22nd week of amenorrhea (WA)

or weighing less than 500g.^{1,2}

It is one of the leading causes of maternal mortality according to WHO, because of the 20 million unsafe abortions that take place each year worldwide, 78,000

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are responsible for maternal deaths.³

Complications of abortion are responsible for 14% of maternal mortality worldwide, 99% of which in developing countries.² In 2008, almost all abortions performed in Africa took place in unsafe conditions and 41% of these unsafe abortions involved young women aged 15 to 24 in developing countries.⁴

Abortion is unsafe when the pregnancy is terminated either by people who do not have the necessary qualifications, or when it is performed in an environment where minimum medical standards are not applied, or when these two conditions are not met. (WHO, 1994), thus exposing women to risks to their health or life.⁵

In Africa, each year 4 to 5 million women abort, most often in deplorable and dangerous hygienic conditions. The average abortion rate for Africa is estimated at 29/1000 women aged 15-44, including 39/1000 in East Africa, 22/1000 in North Africa. Deaths from complications are estimated at 30,000 per year. In Europe, six (6) countries alone account for 900,000 abortions, or the vast majority of abortions (77%). These countries are: France 209,700, the United Kingdom 194,000, Romania 105,000, Germany 105,000, and Spain with 101,000 abortions.⁶

According to the Guttmacher Institute in 2005, in the USA 1,290,000 abortions were recorded, or a rate of 20 ‰ with 67% unmarried women. The number of abortions fell from 30 ‰ in the 1980s to 17 ‰ in 2011.⁷

The WHO developed in 2012 a new conceptual framework aimed at measuring more precisely the degree of safety of abortions in the various countries of the world. It proposes a new classification of abortions into three groups according to the risk associated with the practice:

- Safe abortions performed by a qualified person and with a recommended technique.
- Less safe abortion when only one of these two conditions is met.
- Least safe abortion in the absence of both safety criteria.

Unsafe abortions constitute the whole of the last two groups. WHO recommendations for techniques and qualified personnel evolve and will evolve over time, this classification may change.⁵

In Mali, according to a national study carried out on the provision of obstetric care in 2003, abortions represented 9% of obstetric complications and 19% of direct causes of maternal death.⁸

In different countries, half of the high maternal mortality is due to unsuitable abortions.⁹

In order to reduce maternal mortality due to abortion, the management of abortion complications has evolved. From digital dissection and curettage under general anesthesia, we have switched to manual intrauterine aspiration under local anesthesia or even simple medical treatment.¹⁰

We initiated this study to take stock of the issue in the service. We have therefore set the objective of studying the complications of abortions at the UTH Gabriel Touré, determining the frequency, describing the type of complications and the management.

Methodology

This was a descriptive and analytical cross-sectional study with retrospective data collection over a period of five years from January 2014 to December 2018 in the department of gynecology and obstetrics of UTH Gabriel Touré. The study population consisted of all pregnant women admitted to obstetrics in the Department of Obstetrics and Gynecology of Gabriel Touré University Teaching Hospital. All patients admitted to the department for complication of abortion, whether spontaneous or induced, were included in the study. We carried out an exhaustive sampling taking into account all the cases meeting our inclusion criteria. Data were collected from the following sources: patient medical records, gynecology and obstetrics admission registers, hospitalization records, operative report registers and the post-abortion care register. At the end of the analysis of the data carriers, 795 met our inclusion criteria. The data collected on the survey sheets were entered and analyzed by using Microsoft office software Word versions 2013 and SPSS version 20.0. Pearson's Chi² test, Odds ratio, ICor, P <0.05 were used to compare the data. The values of p <0.005 were accepted as the threshold of statistically significant difference. We performed a logistic regression on the following variables: anemia, hemorrhagic shock, endometritis, pelviperitonitis, hospitalization, death, primigravidae, single, out of school, pupil/student, gestational age, referred, evacuated, etc.

Results

We reported 795 cases of abortions out of 14,148 pregnancies, with a frequency of 5.6%, including 98 cases of complicated abortions, or 12.3% of abortions. These were early abortions in 81.9% and late abortions in 18.1%. Spontaneous abortions represented 92.3% of cases of which 10.6% were complicated and induced abortions (VTP) 4.8% of cases. These data are summarized in Table I and Figure 1.

The average age was 27.82 years with extremes of 14 years and 52 years. Patients aged 20 to 29 were the most represented in the spontaneous abortion group, while those aged fewer than 19 suffered IAs with 42.1% complications. Pupils/students accounted for 29.60% (29/98) of complicated abortion victims and 35.71% were single. 56.3% of IA victims were primigravidae. Table II summarizes the socio-demographic characteristics according to the type of abortion and the occurrence of complications.

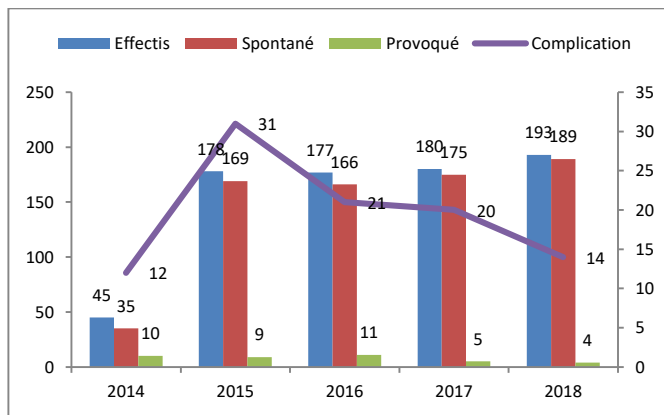


Figure 1: Annual distribution of abortions and complications

Table I: Distribution according to the type of abortion with complication.

Type of abortion	Number	Complication
Spontaneous	733(92.2%)	78(10.6%)
Induced (VTP)	38(4.8%)	19(50%)
Eugenic	6(0.7%)	0(0%)
Therapeutic	18(2.3%)	1(5.6%)
Total	795(100%)	98(12.3%)

Patients with complicated abortions were evacuated from a peripheral structure in 55.80% of cases. Patients who had an IA had a gestational age fewer or equal to 12 WA in 81.6% (31/38) and 48.38% (15/38) of them had complications. Among the patients who underwent VTP 18.4% had a deterioration of the general condition and 3.9% had a fever on admission. These data are collated in Table III. Admission complications were dominated by anemia (68.3%), hemorrhagic shock

(25.5%), endometritis, uterine perforation, pelviperitonitis with 2.0% each (see Table IV).

Table II: Distribution of patients according to the type of abortion on the basis of socio-demographic characteristics.

Age	Type of abortion				Total
	Spontaneous	Complicated	VTP	Complicated	
≤ 19	103 (14.1%)	16 (20.5%)	21(55.3%)	8(42.1%)	124
20-29	320 (43.7%)	29 (37.2%)	12(31.6%)	9(47.4%)	332
30-39	250 (34.1%)	25 (32.1%)	5(13.2%)	2(10.5%)	255
≥ 40	60 (8.2%)	8(10.3%)	0(0.0%)	1(5%)	60
Total	733		38		771
Profession					
Housewife	394(53.8%)	48(61.5%)	15(39.5%)	10(52.6%)	
Pupil/Student	103(14.1%)	12(15.4%)	17(44.7%)	7(36.8)	
Public servant	98(13.4%)	5(6.4%)	2(5.3%)	1(5.3%)	
Total	595		176		771
Status					
Married	680 (92.8%)	68 (87.2)	12 (31.6%)	5 (26.3%)	
Single	50 (6.8%)	9 (11.5%)	26 (68.4%)	15 (73.7%)	
Gravidity		730	38		768
Primigravida	158 (21.6%)	16(20.5%)	21 (56.3%)	11 (57.7%)	
Paucigravida	249 (34.0%)	20 (25.6%)	8 (21.1%)	5 (26.3%)	
Multigravida	164 (22.4%)	24 (30.8%)	5 (13.2%)	2 (10.5%)	
Total	571		34		605

Table III: Clinical characteristics

Gestational age in WA	Type of abortion			
	Spontaneous	Complicated	VTP	Complicated
≤ 12	611(83.4%)	65(10.63)	31(81.6%)	15(48.38%)
13 –20	74(10.1%)	11(14.86)	4(10.5%)	3(75.00%)
21–27WA+ 6D	48(6.5%)	2(4.16)	3(7.9%)	2(66.66%)
Total	733		38	771
General condition				
Good	635(86.6%)	10(12,8%)	23(60,5)	5(26,3%)
Fairly good	81(11,1%)	52(66,7%)	8(21,1%)	8(42,1%)
Distorted	17(2.3%)	16(20.5%)	7(18.4%)	7(35.6%)
Total	733		38	771
Fever				
Yes	13(1.8%)	3(7.9%)		16
No	720(98.2%)	35(92.1%)		755
Hb level				
< 7	54(17.0%)	10(38.5%)		64
7 – 11	132(41.5%)	11(42.3%)		143
> 11	132(41.5%)	5(19.2%)		137
Total	733		38	771

Table IV: Relationship between complications on admission and the type of abortion

Complications On admission	Type of abortion		Total	P
	Spontaneous	Provoked		
Anemia	57(72.2%)	10(45.5%)	67(68.3%)	0.000
Uterine perforation	0(0.0%)	2(9.1%)	2(2.0%)	
Hemorrhagic shock	21(27.8%)	4(22.7)	25(25.5%)	
Endometritis	0(0.0%)	2(9.1%)	2(2.0%)	
Pelvipерitonitis	0(0.0%)	2(13.6%)	2(2.0%)	
Total	78	20(100%)	98	

chi² : 99.27 ddl 5 P 0.000

Management consisted of MIUA in 55.3% for IAs and 76.1% for spontaneous abortions, the use of Misoprostol in 26.3% for induced abortions and a laparotomy in 5.2% for VTP (see figure 2). Of the patients who had an induced abortion, 26.3% received a blood transfusion, 47.4% were hospitalized.

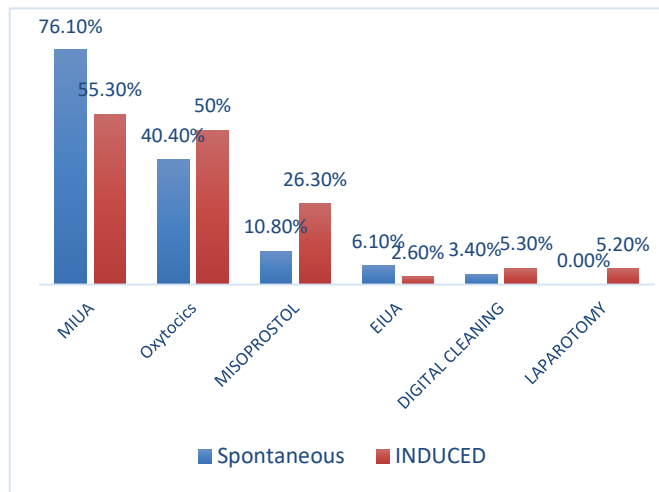


Figure 2: Methods of management according to the type of abortions

Morbidity after treatment was marked by postoperative pain (60.0%), vomiting and diarrhea (14.3%). The lethality was 8.0% and 7.9% was in patients who had VTP.

We performed a logistic regression after adjustment for certain variables, in particular anemia, hemorrhagic shock, endometritis, pelvipерitonitis, death, primigravida, multigravida, celibacy, no schooling, pupil/student, gestational age, evacuation. This allowed us to know that the risk of anemia is multiplied by 1.8 after an IA with a significant probability $P < 0.05$, it is the same for the hemorrhagic shock ORa 1.9; $P < 0.05$, endometritis ORa 0.94; $P < 0.05$, pelvipерitonitis 2.3; $P < 0.05$ (see Table IV).

Table IV: Multivariate analysis for induced abortions after logistic regression

VARIABLE	NOT ADJUSTED			ADJUSTED		
	OR	IC	P	ORa	Ica	P
Anemia	3.05	1.46 – 6.38	< 0.05	1.80	1.23 – 5.14	< 0.05
Hemorrhagic shock	1.59	2.62 – 5.6	< 0.05	1.9	1.13 – 2.7	< 0.05
Endometritis	2.9	1.9 – 5.7	< 0.05	0.94	0.32 – 2.38	> 0.05
Pelvipерitonitis	3.7	1.28 – 6.1	< 0.05	2.3	1.97 – 4.97	< 0.05
Death	6.38	1.85 – 6.43	< 0.05	1.99	1.42 – 3.87	< 0.05
Primigravida	1.14	1.8 – 4.8	< 0.05	1.42	1.03 – 2.65	< 0.05
Multigravida	0.7	0.3 – 1.7	> 0.05	1.01	0.63 – 3.25	> 0.05
Single	3.3	2.6 – 4.3	< 0.05	4.01	2.46 – 17.02	< 0.05
Out of school	0.04	0.6 – 0.7	> 0.05	1.97	1.57 – 4.05	< 0.05
Evacuated	1.7	0.9 – 2.6	< 0.05	7.82	1.92 – 26.36	< 0.05
Pupil/Student	1.6	0.9 – 2.27	< 0.05	1.58	1.0 – 10.98	< 0.05
Age < 12WA	0.5	0.3 – 1.38	> 0.05	1.2	1.04 – 9.21	> 0.05

Discussion

We reported 795 cases of abortions out of 14,148 pregnancies, or a frequency of 5.6%, of which 98 were complicated cases, or 12.3%. These were early abortions in 81.9% and late abortions in 18.1%. Spontaneous abortions represented 92.3% of cases including 10.6% complicated and induced abortions (VTP) 4.8% of cases including 50% complicated. In Nigeria, Ibrahimia IA et al¹¹ reported in their study that the prevalence of unsafe complicated abortion was 4.1% of all deliveries and 14.0% of all gynecologic admissions. In the literature, some authors such as Assebouya T in 2003 in Burkina Faso¹², CEFOPRE in Senegal in 2001¹³, Lombard D in Benin in 2000¹⁴, respectively pointed out a frequency of 83%; 94.2%; 6.4% of spontaneous abortion cases and 16.3%; 1.3%; 1.78% of unsafe abortion. The difference between these rates can be accounted for by the methodologies used in the different studies and the frameworks of the studies. Abortion affects all women of childbearing age, regardless of age. The average age was 27.82 years with extremes of 14 years and 52 years. The average age of patients who underwent abortion varies little from one region to another around the world. Thus, Coulibaly M¹⁵ in 2010, Rose B¹⁶ in New Zealand in 2012 and Prata N et al¹⁷ in 2010 respectively, reported mean ages of 29.5 years; 24.7 years, and 25 years. The vulnerable group, which includes adolescent girls accounted for 16% of cases with 42.1% of complications in case of VTP. Adolescent girls had more recourse to unsafe abortion in 55.3% of cases to only 13.2% in the 30-39 age group and 31.5% in that of 20-29 years (Khi 2 = 51.567; $P = 0.000$). Adolescence is a critical period because the lack of information on

sexuality and contraception, with their corollary of unwanted pregnancies, puts them at risk of illegal IAs. No woman ever wants to have an abortion. Yet, faced with an unplanned pregnancy, some women, especially single people, see no other way out than abortion.

Pupils/students had significantly more IAs with 44.7% of cases. In the literature, many authors have reported the predominance of pupils/students among victims of IA. Thus Kouamé KE et al¹⁸, Diarra A in 2012¹⁹, in 2014, Nayama M and Coll²⁰ in 2000 Gandzien PC and Coll²¹ in 2002 respectively reported 42%, 49.3%; 37.08% and 25.4% of pupils/Students in their series. For many girls, resorting to IA is primarily motivated by fears of an unplanned pregnancy; fears of parental disapproval, abandonment by a boyfriend or husband, lack of financial resources for pregnancy and childbirth care, expulsion from school, or inability to find a husband if they have a child out of wedlock. Primigravida patients had more recourse to IA (56.3%) and with a complication in 57.7% of cases (Chi² 23.13; P 0.000). Kouamé KE et al¹⁸ figured out 58% of primigravida. As a matter of fact, prejudices and certain customs associated with a lack of information limit the access of these adolescent girls to education on family life and to FP services.

On admission, patients who had a spontaneous abortion were in good general condition 86.6% of cases, whereas 18.4% of patients with induced miscarriages were in poor general condition. Regarding gestational age, abortions, whether spontaneous or induced, occurred more frequently in the first trimester, our findings are similar to those of Manouana M. and col²² (88.1%) in the first trimester and Essie DEM et al²³ with 43% in the first trimester.

The complications of abortions are numerous and often very serious, whether immediate or at the aftereffect stage, and depend on the type of abortion but also on the method used in cases of back-street induced abortion. In the literature, the complications reported are mainly: retention of the product of conception, genital infection, anemia, hemorrhagic shock, uterine perforation and vaginal and cervical lesions.^{5,6,7,8} The high rate of sepsis is probably due to the introduction of non-sterile instruments into the uterine cavity, the delayed healthcare seeking and the majority of IAs are commonly performed in poor hygienic conditions and therefore carry risks of infection. Among the complications on admission, anemia was the most frequent complication in spontaneous abortions with

72.2%. In contrast, in IAs anemia and infection were the main complications. It is classically accepted that unsafe abortions cause more haemorrhagic and infectious complications than spontaneous abortions.²⁴ However, preventive measures should be taken to minimize the observed frequencies.

In practice, an initial rapid assessment is performed immediately upon admission of the patient, namely a CBC, a rhesus blood grouping. Resuscitation measures were undertaken for patients admitted in poor general condition (state of hemorrhagic shock) such as: vascular filling, blood transfusion according to the hemoglobin level (8.9%), antibiotic therapy in mono, dual or triple therapy especially in almost all patients who have undergone unsafe abortions. Prevention of tetanus was ensured in unsafe abortion cases. Patients who have had an IA tend to arrive late because clandestine abortion is illegal and most often performed discreetly. The majority of patients were treated medically and surgically, combining MIUA and the administration of oxytocic or Misoprostol. Ibrahim IA et al¹¹ reported that the majority of patients were treated by a combination of surgical and medical methods, only 12.7% of patients were treated with medication alone. MIUA is now the method of choice in early-stage postabortion care because of its advantages compared with other methods. It is also easy to handle and causes very few complications. We used laparotomy (2.6%) for uterine perforation that occurred in the context of back-street induced abortion.

The lethality in our study was 1% or 4 patients and the main causes were hemorrhagic shock, uterine perforation, pelviperitonitis and choriocarcinoma. This result is similar to the data in the literature including that of Ibrahim IA et al¹¹ who reported a case fatality of 4.8% with sepsis as the most common cause.

Conclusion

Abortion complications are very common in our service, dominated by hemorrhagic shock and anemia. Lethality from unsafe abortion was 7.9%. The correct and efficient management of abortions and especially those at risk can significantly reduce the maternal mortality rate.

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