



Pregnancy Loss after Infertility Management without assisted Reproductive Technics (Art) In Kinshasa

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DOI: 10.31080/ASMS.2025.09.2128

Received: June 09, 2025

Published: July 11, 2025

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Abstract

Context and Objective: Pregnancy loss is a dramatic situation for patients who get pregnant after infertility treatment. It has a négative psychological and social impact on the couple. In sub saharian area, characterized by less equipped médical facilities (No ART) and poverty, conception after infertility management is really a challenging achievement. Losing this kind of pregnancy is a real tragedy. The study aims to détermine the frequency and the types of pregnancy loss after infertility management without ART.

Methods: A cross sectional study conducted at University clinic of Kinshasa and Edith Médical center from january 2001 to June 2017 among 305 Patients who conceived after infertility treatment.

Results: Age of patients ranged from 18 to 49 years, with a mean of $30,81 \pm 4,21$ years old and their husbands average age $37,31 \pm 5,36$ years old; The frequency of pregnancy loss was 30,49%. The types of pregnancy loss were: early spontaneous abortion(67,82%), missed abortion(27,5%) and ectopic pregnancy (4,60%).

Conclusion: The pregnancy loss is a frequent problem in the management of infertility.

Keywords: Pregnancy Loss; Infertility Treatment

Introduction

Pregnancy loss after infertility management is a disaster, especially in our society known pronatalist and where those pregnancies are very precious.

Infertility concerns average 15 to 20% of couples worldwide 20 to 30% in sub-Saharan area versus 7 to 9% in developed countries [1]. It impacts negatively the life with social complications like: the stigmatization, the rejection, the depression for 72 to 89% of infertile couples [1-3].

Worldwide the best way to manage infertility is by ART. Those technics need not only trained personnel but also a relevant equipment, that make it less affordable for some categories. In developed countries, many ART centers are available and affordable for many people because of medical insurance policy. In sub-Saharan setting, medical insurance is not organized for many countries; people have to support infertility care by their own. In the other hand ART are rarely available in a pronatalist population. So many patients are managed in facilities out- of- IVF in our area [3]. Pregnancies got in those conditions are so precious that losing them is devastating.

In DRC, Mboloko, *et al.* found that 9% of patients who sought care for infertility got pregnant [3]. Furthermore, It is reported that pregnancies achieved after infertility management have a high risk of loss [5,6], Delabaere, *et al.* and Maconochie *et al.* found pregnancies after tubal infertility management had high risk ($OR_a = 2,67$; IC 95% = 1,45-4,9) to be lost [7,8]; Van Der Spuy, *et al.* Kaur, *et al.* observed the risk of pregnancy loss seems higher in PCOS infertile patients (40-82%) than in the general population (8-15%) also than other causes of infertility [9,10].

It is considered that Infertility and pregnancy losses are 2 facets of reproduction failure with some common etiologies: PCOS, uterine malformation and myomas [11-13].

The impact of this problem and the lack of local studies in our area of those aspects motivate the current study.

Material and Methods

This study was a cross sectional study conducted at University Clinic of KINSHASA and MEDICAL EDITH CENTER from January 2001 to June 2017. The two centers are run with the same protocols of infertility management and almost the same health care providers.

The Study involved 305 infertile women who conceived out-of-IVF infertility management. They were divided in two groups: a case group with 93 patients who lost their pregnancies and a control group, 212 patients who delivered at term.

Patients were systematically managed as follow: anamnesis, physical examination, a clinical diagnosis and para clinical investigations: Hence a diagnosis has been made, a treatment was applied: medical treatment (antibiotics, ovulation inductors,), surgical (myomectomy, adhesiolysis, fibrinolysis, salpingectomy, intra uterine Synechia lysis).

Data's are collected from patients file and the database of infertility unit of university clinic of Kinshasa and Medical Edith center. The variables of interest were socio demographic: the age of patients and their partners, marital status, the profession of the patients and their partners; clinical: parity, gestity, previous history of spontaneous abortions and illegal abortions, BMI, infertility duration (period from the desire of the maternity and

the first consultation), the pathologies found after the two first consultations; para clinical findings: endometrial biopsy findings (Novak canula), pelvic and endovaginal ultrasound findings, Age of pregnancy at ultrasound screening, type of pregnancy loss. Laparoscopy and hysteroscopy findings were not taken in account because they were rarely performed during that period. Endometrial biopsy was systematically performed at mi luteal phase to assess the endometrium modification according to the day of the cycle and some organic lesions (specific and no specific endometritis). We considered as pregnancy loss: all interruptions of the pregnancy whatever the term [14] and the types of pregnancy loss was defined according to CNGOF 2014; an ectopic pregnancy defined as pregnancy implanted out of the uterine cavity (cornual, cervical, on the C section scar, tubal, ovarian, abdominal), early pregnancy loss or early miscarriage defined as loss before 14 weeks, missed abortion or an arrested pregnancy is a stagnation on the development of the pregnancy (stagnation of gestational sac or CRL, absence of cardiac activity) [15], as pauciparous the patients who delivered two or three viable fetus (≥ 28 weeks of gestation) and multiparous ones who delivered above three, for BMI (Kg/m^2) patients were categorized according to WHO classification [16].

Data were collected from the database of UNIVERSITY clinic infertility unit and the Edith Medical Center and recorded in an MS access database and analyzed by stata IC 15.1. Quantitative variables were summarized as mean and standard deviation, qualitative variables as proportions. The Pearson Khi2 test was used for proportions comparison; the t student test for means comparison. The significative difference level was set at $p = 0,05$.

Results

General characteristics of patients

Age of patients was ranged from 18 to 45 years with the mean age 30.8 ± 4.21 years old. Most of them (52.30%) were 31 to 35 years old; and were married (95%), the majority were household workers or unemployed (77, 6%).

Partners average age was $37,31 \pm 5,36$ years old with the extreme of 25 to 59 years.; partners between 36 and 45 years were the most represented (52,89%). the profession of most of the husbands were public servant (39,3%).

Variables	Effective (n==)	Frequency (%)	Mean age
WOMEN AGE	N = 303		30,81 ± 4,21
18-25	34	11,18	
26-30	110	36,18	
31-35	114	37,50	
36-40	43	14,14	
41-45	2	0,66	
MARITAL STATUS	N = 301		
Married	286	95,02	
Single	7	2,33	
Common law couple	8	2,66	
WOMAN OCCUPATION	N = 250		
Unemployed	194	77,60%	
Health professional	23	9,20%	
Teaching professional	16	6,4%	
Legal professional	5	2,0%	
Saleswoman	12	4,80%	
MEN AGE	N = 242		37,31 ± 5,36
25-30	16	6,61%	
31-35	82	33,88%	
36-45	128	52,89%	
46-59	16	6,61%	
MEN OCCUPATION	N = 115		
Public servant	45	39,13%	
Health professional	18	15,65%	
Teaching professional	10	8,70%	
Legal professional	12	10,43%	
Salesman	30	26,09%	

Table 1: Socio demographic characteristics of the couple.

Most patients were nulliparous (70,57%). Half of them had a history of spontaneous abortions (49,65%) and 34% had a story of illegal abortion. The majority of patients had one year of duration of infertility (32,5%), about thirty percent (28%) were above two years; Almost half of them (45.75%) were over weighted and obese.

Variables	Effective (n)	Frequence (%)
PARITY	N = 269	
nulliparous	211	70,57
Primiparous	60	20,07
Pauciparous	25	8,36
multiparous	3	1,00
GESTITY	N = 291	
nulligravida	110	37,8
primigravida	90	30,93

multigravida	91	31,27
HISTORY OF ABORTION		
SPONTANEOUS	N = 288	
0	143	49
1	84	29,17
2	42	14,58
≥3	19	6,60
INDUCED	N = 251	
0	165	65,74
1	50	19,92
2	28	11,16
≥3	8	3,19
BMI	N = 188	
<18,5	5	2,66
18,5-24,9	96	51,06
25-29,9	56	29,79
≥30	30	15,96
INFERTILITY DURATION (YEAR)	N = 240	
1	78	32,5
2	58	24,17
3-5	69	28,75
>5	35	14,58

Table 2: Clinical characteristics of women.

46.67% of patients had normal tubes permeability at hysterosalpingography; 35% had bilateral blocked tubes.

At endometrial biopsy most of patients (65.2%) patients had functional anomalies; About 29% patients had myomas at ultrasound scan; oligoasthenozoospermia was the anomaly most found in men (60%).

Pregnancies outcomes

Among 305 patients pregnant, 212(69,51%) brought their pregnancies to term and 93 (30,49%) lost before term:

Variables	Effective	Frequency %
HSG	N = 180	
Normal	84	46,67
Unilateral tubal blockage	18	10,00
Bilateral tubal blockage	63	35,00
Pelvic adhesions	5	2,78
Uterine synechia	10	5,56
ENDOMETRIAL BIOPSY	N = 121	
Normal	30	24,79
Functional abnormality	79	65,20
Organic abnormality	12	9,84
ULTRASOUND	N = 232	
Normal	98	42,24
Fibroids	67	28,88
Ovarian cyst	25	10,78
PCOS	42	18,10
SPERMOGRAM	N = 115	
Normozoospermia	22	21,09
Oligozoospermia	17	14,86
Asthenozoospermia	60	52
Leucospermia	16	11,56

Table 3: Paraclinical characteristics of women and men.

Variable	Effective=305	Frequency
AT TERM	212	69,51
LOSS	N = 93	
Early miscarriage	63	67,74
Missed abortion	26	27,95
Ectopic pregnancy	4	4,30

Table 4: Pregnancy outcomes.

- Early pregnancy loss o (67.82%),
- Missed abortion (27.59%)
- Ectopic pregnancy (4,60%).

Discussion

General characteristics

The mean age of patients was 30.81 ± 4, 21 and the majority of them (52.3%) were in 31-35 years old group. The partners

average age was $37,3 \pm 5,36$ years old; those findings were close to the Mboloko, *et al.* 2019 in the same area [3,4]. The patients were relatively aged and nulliparous (70.5%). It is known that advanced age is associated with some pathologies like obesity, myomas and endometriosis. Furthermore, it is, associated with the risk of non-desired pregnancies and illegal abortion. A third of Patients (34%) had a history of illegal abortion, most of the time, performed in non-secured conditions in our area, leading to many reproductive consequences: tubal blockage, intra uterine adhesions, endometritis [17,18]. At HSG, almost half (45%) of patients had tubal occlusion and nonspecific endometritis at endometrial biopsy; findings linked to genital sexually transmitted infection [19]. In the other hand, almost half (45.75%) were obese and about thirty percent (28.8%) had myomas and ten percent (9.84%) nonspecific endometritis. All of those conditions are among the risk factors of pregnancy loss. Metwally and lashen [20,21] have found an increasing risk of pregnancy loss for patients with overweight $> 25 \text{ Kg/m}^2$, Maconochie found an increasing risk of pregnancy loss in thin women [8]. Tubal obstruction were found in 45% of cases, the functional endometrial anomalies were found in 65% of patients.

Frequency of pregnancy loss

In the current study, almost a third of patients 30,49% (93 cases) had lost their pregnancies. That is more frequent than in general population where the incidence of miscarriage is estimated at 8 to 15% of population [23] and 2% [24] for ectopic pregnancy. Our frequency of pregnancy loss is less than hakim and coulam's (79%) among infertile patients. The difference is due to the methodology, we considered only patients of clinical pregnancy, COULAM and HAKIM included also the cases of biological pregnancy.

We have identified 3 types of pregnancy losses: early miscarriage (67,82%), missed abortion (27,59%), ectopic pregnancy (4,60%). The first two are mainly due to genetics or chromosomal origin [7,25-28]. This observation can be explained by the advanced age of patients and their partners. Indeed, control the risk of pregnancy loss high with age of both patients and partners [7,29], the advanced age is associated with the high risk of aneuploidy leading to early pregnancy loss in term of early miscarriage and missed abortion [28-30].

The ectopic pregnancy is the consequence of upper genital tract infection caused by chlamydia trachomatis which is frequent

in our area and the main causal factor of tubal and peritoneal blockage [19,24,31]. In the current study 47, 8% of patients had tubal obstruction at HSG ; those lesions are associated with infertility and pregnancy loss [19,31].

Conclusion

Pregnancy loss is frequent in infertility management in our area. Three types were the most encountered : early pregnancy loss, missed abortion, ectopic pregnancy.

Conflicts of Interests

The authors declare no conflicts of interest regarding the publication of this paper.

Bibliography

1. Nana PN., *et al.* "Aspects psycho-sociaux chez les patientes infertiles à la Maternité Principale de l'Hôpital Central de Yaoundé". *Clinics in Mother and Child Health* 8 (2011): 1-5.
2. Mahmoud A. "L'infertilité au Maghreb: Aspect statistiques".
3. Mboloko E., *et al.* "Getting pregnant after infertility management without assisted reproductive technology in a low income setting". *OJOG* 09 (2019): 1250-1264.
4. Mboloko E., *et al.* "Itinéraire thérapeutique des femmes à la recherche des soins pour infertilité". *Annals of African Medicine* 4 (2011): 855-864.
5. Hakim R., *et al.* "Infertility and early pregnancy loss". *American Journal of Obstetrics and Gynecology* 172 (1995): 1510-1517.
6. Coulam C. Association between infertility and spontaneous abortion". *AJRI* 27 (1992): 128-129.
7. Delabaere A., *et al.* "Epidémiologie des pertes de grossesses". *Journal of Obstetrics and Gynecology and Reproductive Biology* 43 (2014): 764-775.
8. Maconochie N., *et al.* "Risk factors for first trimester miscarriage-results from a UK-population based case-control study". *BJOG* 114 (2007): 170-186.
9. Van Der SPUIJ Z and Dyer S. "The pathogenesis of infertility and early pregnancy loss in polycystic ovary syndrome". *Best Practice and Research Clinical Obstetrics and Gynecology* 18 (2004): 755-771.

10. Kaur R and Gupta K. "Endocrine dysfunction and recurrent spontaneous abortion: An overview". *International Journal of Applied and Basic Medical Research* 6 (2016): 79-83.
11. Tamhankar V., *et al.* "A comparison of pattern of pregnancy loss in women with infertility undergoing IVF and women with unexplained recurrent miscarriages who conceive spontaneously". *Obstetrics and Gynecology International* 2015 (2015): 1-6.
12. Cocksedge K., *et al.* "A reappraisal of the role of polycystic ovary syndrome in recurrent miscarriage". *Reproductive BioMedicine* 17 (2008): 151-160.
13. Wold A., *et al.* "Anatomic factors in recurrent pregnancy loss". *Seminars in Reproductive Medicine* 24 (2006): 25-32.
14. Toupet A., *et al.* "Pertes de grossesses à répétition : étiologies et bilan, le point de vue du gynécologue-obstétricien". *Revue de la Médecine Interne* 36 (2015): 182-190.
15. Lémery D., *et al.* "Les pertes de grossesse". *CNGOF* (2014): 621-642.
16. World health organization. "Obesity: preventing and managing the global epidemic". WHO, Geneva, (2000): 894.
17. Santamaria X., *et al.* "Asherman's Syndrome: it may not be all our fault". *Human Reproduction* 33 (2018): 1374-1380.
18. Qureshi Z., *et al.* "Understanding abortion -related complications in health facilities : results from WHO multi country survey on abortion (MCS-A) across 11 sub-saharan African countries". *BMJ Global Health* 6 (2021): e003702.
19. Mboloko E., *et al.* "Tubal infertility and chlamydia trachomatis in a Congolese infertile population". *Open Journal of Obstetrics and Gynecology* 6 (2016): 40-49.
20. Metwally M., *et al.* "Does high body mass index increase the risk of miscarriage after spontaneous and assisted conception? A meta-analyse of evidence". *Fertility and Sterility* 90 (2008): 714-726.
21. Lashen H., *et al.* "Obesity is associated with increased risk of first trimester and recurrent miscarriage: matched case control study". *Human Reproduction* 19 (2004): 1644-1646.
22. MPUTU L., *et al.* "la contribution de la composante masculine dans l'infertilité du couple à Kinshasa". *Journal de Gynécologie Obstétrique et Biologie de la Reproduction* 15 (1986): 51-58.
23. Linnakaari R., *et al.* "Trends in the incidence, rate and treatment of miscarriage-nationwide register-study in Finland, 1998-2016". *Human Reproduction* 34 (2019): 2120-21288.
24. Danielle MPanelli., *et al.* "Incidence, diagnosis and management of tubal and nontubal ectopic pregnancies: a review". *Fertility Research and Practice* 1 (2015): 15.
25. Spandorfer S., *et al.* "Relationship between maternal age and aneuploidy in in vitro fertilization pregnancy loss". *Fertility and Sterility* 81 (2004): 1265-1269.
26. Hassold T., *et al.* "Human aneuploidy : Incidence, origin, and etiology". *Environmental and Molecular Mutagenesis* 28 (1996): 167-175.
27. Hassold T and Hunt P. "To err (meiotically) is human : the genesis of human aneuploidy". *Nature Reviews Genetics* 2 (2001): 280-291.
28. Pellestor F. "Frequency and distribution of aneuploidy in human female gametes". *Human Genetics* 86 (1991): 283-288.
29. Rochebrochard E and Thonneau P. "Paternal and maternal age are risks factors for miscarriage, results of a multicentre European study". *Human Reproduction* 17 (2002): 1649-1656.
30. Andersen N., *et al.* "Maternal age and fetal loss : population based register linkage study". *BMJ* 320 (2000): 1708-1712.
31. Bouyer J., *et al.* "Risk factors for ectopic pregnancy: a comprehensive analysis based on a large case control population based study in France". *American Journal of Epidemiology* 157 (2003): 185-194.