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Research Article

# Maternal and Perinatal Outcome of Placenta Previa: 10 Years Analysis in the District of Bamako

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## Abstract

**Introduction:** We initiated this study to determine the outcome of placenta praevia in our department.

**Material and Method:** This is a cross-sectional study comparing the maternity of the Gabriel Toure's hospital over 10 consecutive years. We compared two groups with placenta previa and without it. Included pregnant women with newborns had a weight ≥ 500 g or whose≥ 22 weeks. We determined the Odds ratio and its 95% confidence interval.

**Results**: We recorded 504 cases of placenta previa among 30323 admissions (1.7%). Only placental abruption was strongly associated with placenta previa (p<0.001). However, therewere no differences between the two groups according to rates of endometritis, postpartum hemorrhage and maternal death (p>0.05). We found 73.1% of caesarean sections in the placenta praevia group vs57.4% in the group without a placenta previa. Indeed, there was a significantly higher incidence of stillbirths, Apgar score <7, transfer of newborns and small birth weights in the placenta previa group (p <0.001). However, there was no significant difference between the period of prenatal deaths and the type of placental desertion in the two groups.

**Conclusion:** The maternal outcome is often good. The perinatal outcomes dominated by prematurity and significant perinatal mortality especially during the antenatal period.

**Keywords**: Placenta previa, Risk actors, Maternal outcome, Fetal outcome

## Introduction

The placenta previa is the insertion of placenta partly or in totality on the segment lower uterine segment resulting with complications hemorrhagic at third quarter of the pregnancy. The placenta slides on the uterine wall during the growth of lower uterine segment [1]. Sometimes this ascent of placenta is not performed and the placenta stuck on the lower segment. The frequency of placenta previa varies according to the criteria accepted, the term of the pregnancy and according to the mode of diagnosis clinic or ultrasound. So she varies of 1% to 5% according to the literature [1-3]. If the etiology of placenta previa is evil known, the factors of risk are however well identified. It is the antecedents of curettage, the uterus scar, the smoking, the age maternal, the multiparous and the multiple pregnancies. The obstetrical hemorrhage constitutes the first cause of mother death, among the causes of these hemorrhages: the placenta previa. That is why we initiated this study for determine the prognosis maternal and perinatal of placenta previa in our service.

## Methodology

It is about a transverse and comparative study at Gabriel TOURE's maternity at 1st January 2003 to 31 December 2012 (10 years). The Gabriel TOURE's hospital is a hospital of 3ndreferenceand receives the references from all the country. We compared two groups. The first group was constituted of case of placenta previa. Second group was without placenta previa. This diagnosis was on the following modalities: the elements of vaginal touch, the ultrasound obstetric or the measure of small side of membranes (a measure lower to 10 cm signing a placenta previa). Were included in our study all the women admitted in the service among who the new-born have weighed at least 500g or whose the term of the pregnancy was of at least 22 weeks of amenorrhea. The data were analyzed with software SPSS 19. We determine for both groups an Odds Ratio (OR) and

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it's Interval of Confidence (IC). Every time if effective was lower to 5, the test exact of fisher was used. The threshold of significant statistics was fixed to 5%. The coefficient of correlation was calculated between the evolution of rate of placenta previa and that of rate of caesarean.

## Results and Discussion

Of 1st January 2003 at 31 December 2012, we recorded 504 cases of placenta previa among 30323 admissions in obstetrics (1.7%). The pregnancies without prenatal care were 15.7% in the group of case vs 10.2% in the group of controls (p>0.05). The frequency of placenta previa has oscillates between 1.3% in 2003 and 1.4% in 2012 with a peak of 2.9% in 2000. The existence of placenta previa was associated to a significantly increased risk of hospitalization at course of third quarter of the pregnancy. However we didn't had not differences between both groups in what concerns the rate of endometritis, of hemorrhage of the deliverance and of death maternal (p>0.05) (Table 1). Also we recorded 73.1% of cesareans section in the group placenta previa vs 57.4% in the group not having no placenta previa (p<0.001) (Table 1). These cesareans section in the first group were more often made before or in beginning of labor under general anesthesia (p<0.001); with a frequency highest of hysterotomy atypical and of hysterectomy of hemostasis although the rate of this treatment mutilating not either not significantly different in both groups. All the slices of prematurity were more frequent in the group placenta previa (p<0.001) (Table 2). Overall 49, 0% of placentas previa were childbirth prematurely vs 16, 2% when not of placenta previa. Indeed, it were more significantly high frequency of stillbirth, of Apgar score <7, of transfer newborn in service of neonatology and of small weight birth in the group

**Table 1:** Maternal outcome of placenta previa in Bamako's District.

| Maternal outcome | Placenta previa | No placenta prævia | Khi² | p | OR | ICor |
|---|---|---|---|---|---|---|
| **3rd quater hospitalisation** | **8.2%** | **3.2%** | **37.95** | **<0.001** | **2.7** | **1.9 - 3.9** |
| **Deliveries** | | | | | | |
| Cesareans section | 73.0% | 27.0% | 406.63 | <0.001 | 6.2 | 5.1 - 7.5 |
| Vaginal delivery | 30.5% | 69.5% | | | | |
| **Hemorrhage** | **2.0%** | **1.9%** | **0.047** | **>0.05** | **1.5** | **0.9- 2.6** |
| Atonia | 0.4% | 0.6% | 0.21 | >0.05 | 0.7 | 0.2 - 2.9 |
| Coagulation disorder | 0.6% | 0.2% | a | >0.05 | 3.1 | 0.9 - 9.7 |
| Placental retention | 0.0% | 0.2% | a | >0.05 | 1.01 | 1.01-1.03 |
| Accreta placenta | 0.0% | 0.001% | a | >0.05 | 1.0 | 1.00-1.001 |
| **Late hemorrhage** | **0.0%** | **0.1%** | **a** | **>0.05** | **1.001** | **1.00-1.001** |
| **Endometriosis** | **1.2%** | **1.0%** | **0.18** | **>0.05** | **1.2** | **0.5 - 2.7** |
| **Maternal death** | **2.2%** | **1.7%** | **0.56** | **>0.05** | **1.2** | **0.7 - 2.3** |

a=Exact test of Fisher

**Table 2:** Perinatal outcome of placenta previa in Bamako's District.

| Perinatal outcome | Placenta prævia | Pasde placenta prævia | Khi² | p | OR | ICor |
|---|---|---|---|---|---|---|
| **Apgar score 1st mn** | | | 406.49 | <0.001 | | |
| 0 | 26.3% | 9.3% | | | 6.4 | 5.1-8.1 |
| 1 - 3 | 6.8% | 2.3% | | | 6.7 | 4.6-9.9 |
| 4 - 7 | 34.9% | 15.6% | | | 5.1 | 4.1-6.4 |
| ≥8 | 32.0% | 72.9% | | | Reference | |
| **Apgar score 5 mn** | | | A | <0.001 | 4.2 | 3.5-5.2 |
| 0 | 26.7% | 9.4% | | | 7.3 | 3.6-14.6 |
| 1 - 3 | 1.9% | 0.4% | | | 4.9 | 3.7-6.4 |
| 4 - 6 | 14.0% | 4.2% | | | Reference | |
| ≥8 | 57.5% | 85.9% | | | | |
| **New born weight** | | | 342.41 | <0.001 | | |
| < 1000 grammes | 8.6% | 2.6% | | | 5.9 | 4.2-8.4 |
| 1000 - 1499 grammes | 10.4% | 3.5% | | | 5.5 | 4.1-7.6 |
| 1500 - 2499 grammes | 39.4% | 17.1% | | | 4.2 | 3.5-5.2 |
| 2500 - 3999 grammes | 41.2% | 74.3% | | | Réf[b] >4000 g | |
| ≥ 4000 grammes | 0.4% | 2.5% | | | | |
| **With malformations** | 1.4% | 1.2% | 0.125 | >0.05 | 1.1 | 0.5-2.4 |
| **Transfert to neonatology** | 33.1% | 14.5% | 132.62 | <0.001 | 2.9 | 2.4-3.5 |
| **Perinatal death** | 34% | 11.2% | 238.31 | <0.001 | 4.1 | 3.4-4.9 |
| Still birth | 10.8% | 3.3% | 82.77 | <0.001 | 3.5 | 2.5-4.7 |
| Perpartum death | 10.7% | 3.3% | 82.05 | <0.001 | 3.5 | 2.6-4.7 |
| Death during resuscitation | 2.6% | 0.8% | 18.42 | <0.001 | 3.2 | 1.8-5.7 |
| Death between J1 et J7 | 5.0% | 1.5% | 39.22 | <0.001 | 3.4 | 2.3-5.2 |

a=exact test of Fisher; b=reference

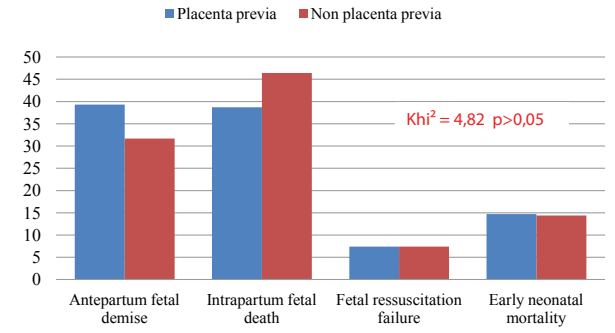


**Figure 1:** Distribution according to period of death and placental insertion.

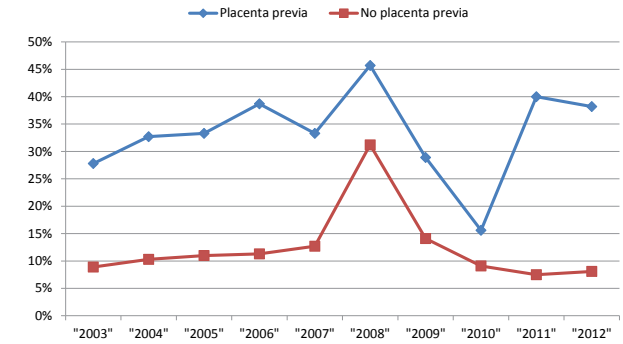


**Figure 2:** Evolution of death frequency in both groups.

**Table 3**. Incidence du placenta praevia dans les séries africaines [5-14].

| Author | Country | Period of study | Period of publication | Denominator | Effective | Percentage |
|---|---|---|---|---|---|---|
| Nyango DD | Nigéria | 1999-2002 | 2010 | - | | 0.89% |
| Ikechebelu JI | Nigéria | 1997-2001 | 2007 | 3565 deliveries | 59 | 1.65% |
| Loto O | Nigéria | 1996-2005 | 2008 | 7515deliveries | 128 | 1.65% |
| Nayama M | Niger | 2003 | 2007 | | 98 | 3% |
| Lakhdar A | Maroc | 1995-1999 | 2001 | | 222 | 0.33- 2.6% |
| Ezechi O C | Nigéria | 2000-2003 | 2004 | | | 2.6% |
| Ghazli M | Maroc | 1990-1995 | 1998 | | 200 | 0.4% |
| Tebeu PM | Cameroun | 2004-2008 | 2012 | 11197 deliveries | 126 | 1.1% |
| Buambo-Bamanga SF | Congo Brazza | 1998-2002 | 2004 | 20234 deliveries | 128 | 0.6% |
| N'guessan K | RCI | 2002-2006 | 2009 | | | 1.6% |
| Our study | Mali | 2003-2012 | 2015 | 30323 admissions | 504 | 1.7% |

placenta previa (p<0.001) (Table 2). However it there had no significant difference according to the period of occurred of perinatal death and the type desertion placental in both groups (Figure 1). Additionally it n there had not of difference significant according to the evolution of death perinatal in both groups during the period of the study (Figure 2).

In our study the overall frequency of placenta previa during one decade was of 1.7%. In a recent meta-analysis who has included 58 studies, the prevalence of placenta previa was of 0.4%. It oscillates between 0.28% and 1.97% according to the studies [3]. The results of this meta-analysis rhyme with those reported in the African series (Table 3). In our study, the frequency of placenta previa has oscillates between 1.3% in 2003 to 1.4% in 2012 with a peak of 2.9% in 2007. This trend realizes an aspect dysphasia, first crescendo then decrescendo with a correlation average at rate of caesarean that's the peaks were observed in 2006 and 2007 before it has a trend decrescendo. An evolution of rate of placenta previa supposable to that of rate of caesarean was reported by other work [4-14] (Table 3).

In our study almost 1/2 (49.0%) of placentaprevia is diagnosed during labor because of late of diagnosis what has an incidence on the quality of care that is performed in 45.4% at context of emergency. These high rate of emergency is because of a lot of gestates with the placenta previa had no prenatal care (15.7% vs 10.2%), or when those-this had been made the interval between the last consultation and the delivery was of at least 1 month (15.2% vs 16.9%). Also, the trans-vaginalultrasound to specify the position of placenta from the 20$^{th}$ week pregnancy [15], is not a current practice in our department either the term of the pregnancy. Also, In our study, we found that 73.1% of cesareans section of group placenta previavs 57.4% of controls are executed before labor or immediately at beginning of labor (p<0.001). These cesareans section in the first group were performed more often under general anesthesia (p<0.001); with more high frequency of atypical hysterotomy(toavoid placenta) and of hemostasis's hysterectomy although the rate of this treatment mutilating not either not significantly different in both groups. However, in he's studies, Okafori I [16] have reported 85.71% of cesareans section without hysterectomy without any maternal death. Nayama M, et al. [8] at Niger have found 2.3% of hemostasis's hysterectomy. In the study of Nayama M [8]; the caesarean delivery was the mode of choice (89.1%) of women. He didn't record any maternal death. In our study we found 2.2% of maternal death in the group of placentas previavs 1.7% in the group without placenta previa .The difference was not statistically significant. Among the pathologies studied, only the placental abruption was strongly associate at placenta previa (p<0.001). However it had no differences between both groups in what concerns the rate of endometritis, of hemorrhage of the deliverance and of death maternal (p>0.05). However the morbidity and the stillbirth neonatal death were significantly increased especially in antenatal period. Ikechebelu J, et al. [17] have found 4.5% of perinatal mortality associated at placenta previa at Nigeria and Nayama M [8] have reported a perinatal mortality of 38.8% whose 22.5% of death antenatal to Niamey at Niger. Indeed, it there had a frequency significantly more high of stillbirth, of Apgar score < 7 and of small birth weight in the group placenta previa (p<0.001). In the study of Lakhdar A. and Chaoui A. at Morocco [9], the perinatal death was past of 40% in case of vaginal delivery to 11% in case of caesarean delivery whereas the prematurity was found in 36.45%, and the hypotrophy in

12.3%. Always at Morocco Ghazli M et al. [11] have reported 6% of neonatal distress and the low gestational age, the small birth weight, the serious hemorrhage, the vicious presentation of unborn, the no monitoring of the pregnancy and the association of placenta previa with placental abruption. In our study the low rate of neonatal death is correlated to the improvement of technical support, including the expansion of our department and the recruitment and of first doctors in specialization.

## References

1. Roussille M, Rudigoz RC. Fiabilité de l'échographie dans le diagnostic du placenta praevia. Rev Fr Gynécologie. 1980;75:83-86
2. Rizos N, Doran TA, Miskin M, et al. Natural history of placenta praevia ascertained diagnostic ultrasound. *Am J Obstet Gynecol*. 1979;133(3):287-291
3. Faiz AS, Ananth CV. Etiology and risk factors for placenta previa: an overview and meta-analysis of observational studies. *J Matern Fetal Neonatal Med*. 2003;13(3):175-190.
4. Kollmann M, Gaulhofer J, Lang U, et al. Placenta praevia: incidence, risk factors and outcome. *J Matern Fetal Neonatal Med*. 2016;29(9):1395-1398.
5. Nyango DD, Mutihir JT, Kigbu JH. Risk factors for placenta praevia in Jos, north central Nigeria. *Niger J Med*. 2010;19(1):46-49
6. Ezechi OC, Kalu BKE, Nwokoro CA, et al. Placenta Praevia: A Study of Risk Factors, Maternal and Fetal Outcome. *Trop J Obstet Gynaecol*. 2004;21(2):131-134
7. Loto O, Onile TG. Placenta praevia at the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife. A ten year analysis. *Niger J Clin Pract*. 2008;11(2):130-133
8. Nayama M, Sako-Moussa Y, Garba M, et al. Prise en charge du placenta praevia au niveau de la materniteIssaka Gazobi de Niamey : Etude prospective à propos de 98 cas sur 1 an. *Médecine d'Afrique noire*. 2007; 54(4): 203-208.
9. Lakhdar A, Chaoui A. Le placenta praevia. In: Première Conférence Nationale de Consensus: Les hémorragies Obstétricales, Marrakech, 19-20-21 janvier 2001, [compiled by] l'Association pour la Formation et la Recherche en Gynécologie Obstétrique. [Rabat], Morocco, Association pour la Formation et la Recherche en Gynécologie Obstétrique, 2001. 17-24.
10. Ezechi OC, Kalu BKE, Nwokoro CA, et al. Placenta Praevia: A Study of Risk Factors, Maternal and Fetal Outcome. *Trop J Obstet Gynaecol*. 2004;21(2):131-134
11. Ghazli M, Zinoun N, Salah-Eddine A, et al. Placenta praevia et pronostic foetal : A propos de 200 cas. *Revue française de gynécologie et d'obstétrique*. 1998;93(6):457-463
12. Tebeu PM, Fosso GK, Mbu RE, et al. Placenta previa at University Hospital, Yaoundé, Cameroon. *Int J Gynecol Obstet*. 2013;120(3):286-288
13. Buambo-Bamanga SF, Oyere-Moke P, Makoumbou P, et al. Placenta praevia hémorragique : pronosticmaternel et fœtal. *French Studies and Research Papers / Health*. 2004;14(3):177-181.
14. N'guessan K, Kouakou F, Loué V, et al. Placenta praevia: maternal and featal prognosis in University Hospital of Cocody (Abidjan-Cote d'Ivoire). *Mali Med*. 2009;24(2):57-59.
15. RCOG. Placenta praevia, placenta praeviaaccreta and vasa praevia: diagnosis and management. *Green-top Guideline*. 2011;27:1-26
16. Okafori I, Ugwu EO, Obis N, et al. Uterine packing in the management of complete placenta praevia. Niger J Med. 2014;23(4):321-324.
17. Ikechebelu JI, Onwusulu DN. Placenta praevia: review of clinical presentation and management in a Nigerian teaching hospital. *Niger J Med*. 2007;16(1):61-64.