

## Original Research Article

## Cesarean Delivery in Case of Retroplacental Hematoma in a Reference Health Center in Bamako, Mali

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**Abstract:** *Introduction:* Retroplacental hematoma is a significant cause of maternal death in developing countries. The objective of this study was to study the retroplacental hematoma at the reference health center (CSRef) of commune V of the district of Bamako. *Patients and Method:* This was a cross-sectional study conducted at the gynaecological and obstetrics department of the CSRef of commune V in the district of Bamako. It involved 117 cases of retroplacental hematoma. Data entry and analysis were carried out on the Epi info software version 6.2. *Results:* Our study found that the frequency of retroplacental hematoma was 1.44%. The preferred age was 20 to 34 years (76.3%). Large multiparous women were the most affected (38.1%) and 6.2% of patients had a history of HRP. Caesarean section was the most commonly used route of delivery (82.9%) and the fetal prognosis was very poor (64% of fresh stillbirths). Postoperative complications were dominated by anaemia (81.4%). *Conclusion:* Retroplacental hematoma is a worrying pathology because of its maternal and perinatal morbidity and mortality.

**Keywords:** Retroplacental Hematoma, Maternal Death, Risk Factors, Prognosis and Therapeutic Attitude, Bamako.

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## INTRODUCTION

Pregnancy and childbirth are natural and physiological phenomena. Sometimes their evolution can be punctuated by pathologies, some of which can be life-threatening for both the mother and the fetal. Among these pathologies, retroplacental hematoma (RPH) due to its sudden onset and the severity of its complications represents one of the most typical obstetric emergencies [1]. HRP, which corresponds to the premature abruption of the placenta normally inserted, is a paroxysmal accident in the last months of pregnancy or childbirth resulting from the disinsertion of all or part of the placenta before delivery with the formation of a more or less voluminous hematoma between the uterus and the placenta. Despite numerous diagnostic and therapeutic advances, it is still often an unpredictable accident that is difficult to diagnose due to the high frequency of its

atypical forms [1]. While in developed countries, the control of risk factors has made it possible to stabilize its frequency, in our countries it is responsible for very high mortality and fetal morbidity and significant maternal mortality. It therefore requires the obstetrician to make an early diagnosis and provide adequate care. Its frequency remains stable worldwide despite advances in the monitoring of pregnancy and childbirth. In France, its frequency varies between 0.25% (2) and 0.5% [3]. In Anglo-Saxon countries, the rate observed is slightly higher, between 1 and 2% [1]. In Africa in Dakar and Benin, a frequency of 0.73% [4], and 0.48% [5], of HRP was reported, respectively.

In Mali, several studies have been carried out but we have initiated our own to make a contribution to the management of this pathology with the objective of studying the retroplacental hematoma in the obstetrics

and gynecology department of the CSREF commune V of the district of Bamako.

### PATIENTS AND METHOD

Our study was conducted in the gynecology and obstetrics department of the reference health center of commune V of the district of Bamako. Commune V covers an area of 41.59 km<sup>2</sup> with a population of 414,668 inhabitants (General Population and Housing Census in 2009). This centre is located in a peripheral area with a rapidly growing population where health problems are worrying. This was a cross-sectional study that involved 117 cases of retroplacental hematoma. The survey ran from January 2009 to December 2009. We carried out the exhaustive recruitment of patients treated for retroplacental hematoma during the study period. All patients in whom a caesarean section was performed for retroplacental hematoma who agreed to participate in our study were included in our study. Not all patients who did not meet the above criteria were included in the study. The variables collected were sociodemographic variables, risk factors, management modalities and prognosis. Data were collected from the questionnaire. Data entry and analysis were performed using Epi info software version 6.2. We obtained authorization from the

administrative and health authorities before starting the collection. The free and informed consent of the women was obtained and their refusal was without penalty. Anonymity and confidentiality on the identity of the women were respected.

### RESULTS

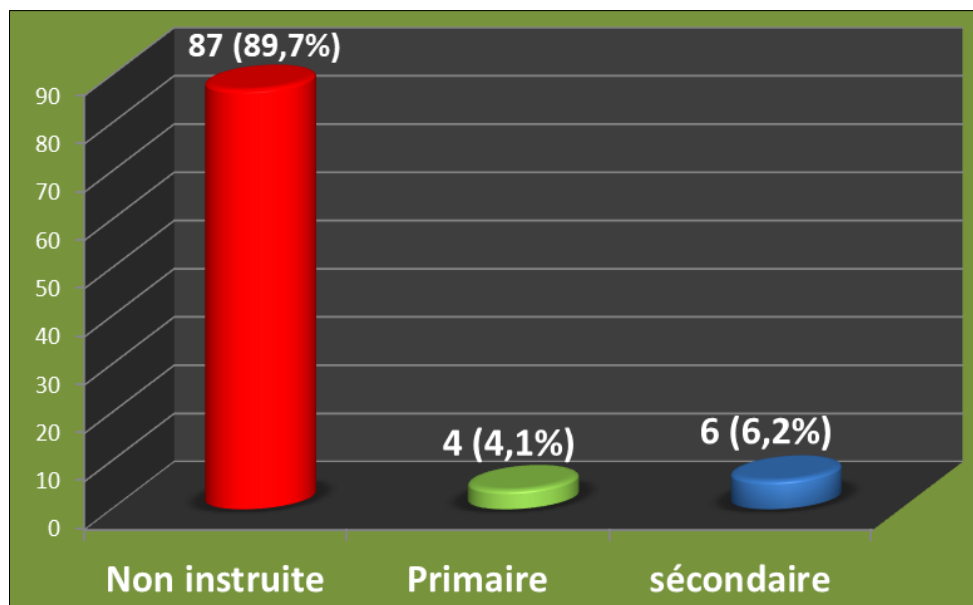
In total, we recorded 117 cases of retroplacental hematoma out of a total of 8142 deliveries, i.e. a frequency of 1.44%. Of the 117 cases of retroplacental hematoma, 97 were delivered by caesarean section, i.e. 82.9%.

**Table I: Distribution of patients by age group.**

Age range	Actual	%
≤ 19 years old	8	8,3
20 -34 years old	74	76,3
≥ 35 years old	15	15,4
<b>Total</b>	<b>97</b>	<b>100</b>

Extremes = 15 and 43 years, mean = 28.01 years + 6.30, median = 28.00 years

The 20-34 age group was the most represented (76.3%). The average age was 28 years.



**Figure 1: Distribution of patients by level of education.**

The majority of our patients were uneducated (89.7%).

**Table II: Distribution of patients by gender parity**

Parity	Actual	%
Primiparous	13	13,4
Paucipare	27	27,8
Multiparous	20	20,6
Large multiparous	37	38,2
<b>Total</b>	<b>97</b>	<b>100</b>

Regarding parity, 38.2% of our patients were large multiparous and 13.4% were primiparous women.

**Table III: Distribution of patients according to history of high blood pressure and the number of prenatal consultations**

Variables	tual	%
<b>History of hypertension (n=97)</b>		
None	69	71,1
HTA	28	28,9
<b>Number of ANC's (n=97)</b>		
None	15	15,4
1 - 3	57	58,8
≥4	25	25,8

We noted a history of hypertension (hypertension) in 28.9% of our patients and a history of HRP in 6.2% (Table III). More than half of our patients,

58.8%, had had 1 to 3 prenatal consultations (ANCs) and 15.4% had no ANC's.

**Table IV: Distribution of patients according to indications, complications, APGAR and transfusion.**

Variables	Actual	%
<b>Indications (n=97)</b>		
Maternal rescue	62	63,92
Fetal rescue	35	36,08
<b>Complications (n=97)</b>		
Anaemia	79	81,4
Coagulopathy	9	9,3
Renal impairment	3	3,1
No	6	6,2
<b>Apgar score in the 5th minute</b>		
Fresh stillbirths	62	64
1-3	2	2
4-7	4	4
≥8	29	30
<b>Transfusion (n=97)</b>		
Yes	62	63,9
No	35	36,1

In our series, the upper route was the preferred route of delivery, which is how we performed 97 caesarean sections out of the 117 cases of HRP (82.90%). The operative indications were maternal rescue (63.92%) and the live fetus (36.08%). Attempted vaginal delivery was performed in 23.8% of cases, but it failed in 6.8% of cases due to the slowness of labour and the persistence of bleeding with deterioration of maternal condition, so in total, vaginal delivery was performed in 17.1% of cases. The majority of postoperative complications were anaemia (81.4%) (Table IV) and in these anaemic patients 63.9% were transfused with a blood product. In our study, the maternal prognosis was good because we did not record any maternal deaths. Concerning the fetal prognosis, the retroplacental hematoma was very fetical so we recorded 62 fresh stillbirths (64%).

## DISCUSSIONS

Retroplacental hematoma has always been a common pathology in Mali. Thus, we recorded 8142 deliveries, including 117 cases of retroplacental hematoma, i.e. a frequency of 1.44%. Our relatively low frequency could be explained by the fact that women regularly monitored their pregnancies. The frequency of

HRP is variously assessed according to the authors. Our frequency is lower than that of Thieba *et al.*, [6], who reported an incidence of 0.96%. Elsewhere, other authors found higher frequencies of HRP in Senegal by MG BA *et al.*, (4.3%) [7], at the Gynecology and Obstetrics Clinic of the Dantec University Hospital in Dakar and by M Nyama *et al.*, in Niger (3.6%) [8], in a referral maternity hospital in Niger. We found that the average age of our patients was 28 years with extremes of 15 and 43 years. Several contributing factors have been implicated in the occurrence of HRP. According to some authors, the advanced age of the mother has been identified as a major factor. Thus, Ousmane Thiam *et al.*, found in a reference maternity hospital in rural Senegal an average age of 29.84 years with extremes of 13 and 46 years [9]. MG BA *et al.*, found a mean age of 28.82 years with extremes of 17 and 45 years [7], and S Mezane *et al.*, a mean age of 30.82 years with extremes of 17 and 45 years [10]. The majority of our patients were uneducated (89.7%). In our context, women's school enrolment rates are low, which could be a plausible explanation for this finding. Multiparity was also implicated as a factor promoting HRP, as evidenced in our study: 38.2% of our patients were large multiparous and 13.4% were primiparous women. Our result is

similar to that of MG Ba *et al.*, [7], who found that 26.6% of their patients were large multiparous and primiparous women represented a significant share with 33.3%. The most classic circumstance of the occurrence of HRP is that of gestational hypertension and more particularly pre-eclampsia. This is how we noted a history of high blood pressure (hypertension) in 28.9% of our patients and a history of HRP of 6.2%. Elsewhere, Ousmane Thiam *et al.*, found in their study that 12% of patients had a history of pre-eclampsia and 11% had a history of PRH [9].

In our series, more than half of our patients (58.8%) had had at least one to three prenatal consultations (ANCs) and 15.4% had not had an ANC. These results are comparable to those reported by Ousmane Thiam *et al.*, [9], who found that 66.6% of patients had a number of ANCs between one and three and 16% had no ANCs. The risk of developing HRP is also linked to poor pregnancy monitoring. Indeed, the absence or inadequacy of prenatal follow-up and therefore the absence of diagnosis and correct management of all risk factors during pregnancy promote the occurrence of HRP. In our series, the upper route was the preferred route of delivery, our rate of recourse to caesarean section was 82.9%, a rate significantly higher than the rates of the following authors: 2.25% [11], 11.6% [7], 15% [12], 35.6% [6], and 51% [9]. This could be explained by the scarcity of blood products and the inadequacy of the technical platform in our structures and more specifically in intensive care units. Our rate is close to that of Western data, which varies between 50% and 100% [12, 13].

Indications for caesarean section were mainly made in 64% for maternal rescue and 36% for fetal rescue. Our result is similar to that of F Elmrabet *et al.*, who have indications of maternal rescue with 41.17% followed by fetal rescue with 30.39% [14]. Rapid uterine evacuation is the basic treatment for HRP. It reduces the risk of maternal-fetal complications. Caesarean section was indicated according to the clinical condition of the mother and/or fetus, local obstetric conditions, and the availability of blood products. Thus, caesarean section was decided in emergency after an initial examination in 76% of cases. This attitude is mainly motivated by the fact that we do not have sufficient blood products and derivatives and the fear of the development of coagulation disorders. In our series, the blood transfusion rate (63.9%) is comparable to that of MG Ba *et al.*, which reported 56.62% [7]. Our rate is much higher than the rates of the authors who reported 33.7% (11), 27.2% [9], and 18% (12). The fight against hypovolemic shock is the essential element in the prevention of complications related to HRP. It consisted of vascular filling and blood transfusion. The blood products used were whole blood and fresh frozen plasma. In our series, the maternal prognosis was good, we recorded no cases of maternal death from retroplacental hematoma during the period. Our result is similar to that of T Boisramé *et al.*, who had

no maternal deaths [12]. The absence of maternal deaths in our study could be explained by the speed of management and the very beneficial effect of caesarean section in the case of HRP. However, our result is contrary to the study conducted by Ousmane Thiam *et al.*, who found a maternal lethality of retroplacental hematoma of 6.6% [9].

The fetal prognosis was very guarded with 65% fetal mortality. The fetus thus pays the heaviest price for this pathology. Our result is similar to those of Ousmane Thiam *et al.*, and Nyama M *et al.*, who found stillbirths of 60.5% [9], and 71.3% [8], respectively. Our rate is significantly higher than the data in Western literature [12-15], where the figures are exceptionally above 20%.

## CONCLUSION

The retroplacental hematoma, a medical-obstetrical emergency, is a pregnant-like pathology that is worrying in our communities because of its brutal nature and its serious maternal morbidity and mortality in the victim patients. It should be particularly feared in pregnant women with risk factors such as pre-eclampsia. Early diagnosis, resuscitation measures and caesarean section significantly improve the prognosis.

**Conflict of Interest:** None.

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