


Case Report

Epidemiological, Clinical and Prognostic Characteristics of Haemorrhage in the Third Trimester of Pregnancy at the Mother and Child Health Center in the Zinder Region

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Abstract

Haemorrhage in the third trimester of pregnancy is an obstetric emergency with a life-threatening maternal-fetal prognosis. The study was cross-sectional, descriptive and analytical from February 1 to September 30, 2022, at the Centre de la Santé de la Mère et de l'Enfant in Zinder. Pregnant women admitted for haemorrhage in the third trimester of pregnancy were included. Analysis was performed using Epi-info software version 7.2.5.0. Out of 3957 obstetric admissions, 277 cases of hemorrhage in the third trimester of pregnancy were recorded, representing a frequency of 7%. The 18-35 age group was the most represented with 80.84%. Over half the patients came from rural areas (67.87%) and 78% were referred. Large multiparous women accounted for 44.40%. Blood transfusion was performed in 57.40% of patients. The maternal mortality rate was 5.05%, with 60.65% of stillbirths. Haemorrhage in the third trimester of pregnancy remains a major obstetric complication at the CSME in Zinder, with a high fetomaternal mortality rate.

Keywords: Hemorrhage; third trimester; pregnancy; prognosis.

Introduction

The arrival of a child in a couple is a happy event, but unfortunately many parturients lose their lives during this ordeal. According to the World Health Organization (WHO), 830 women worldwide die every day from complications related to pregnancy or childbirth [1]. In developing countries, this mortality rate is 5 to 20 times higher than in developed countries, and hemorrhage in the third trimester of pregnancy, together with post-partum hemorrhage, is the main cause of death [4-6]. Haemorrhage in the third trimester of pregnancy occurs in 3 to 5% of pregnancies [15-17]. In India, third-trimester hemorrhage complicated 1.31 to 3.27% of pregnancies [7,8]. In Africa, Izard Nada's team in Morocco found a frequency of third-trimester hemorrhage of 0.65% over 12 months [9]. In sub-Saharan Africa. The teams of Coulibaly Youssouf in Mali in 2021 and Moussa B et al in Burkina Faso in 2020 reported a frequency of 2.69% and 4.86% respectively [10,11]. In Niger, studies carried out at the Issaka Gazoby maternity hospital revealed a frequency of 3rd-trimester haemorrhage of around 6 to 10% of deliveries, with a high perinatal mortality rate [12,13]. In Zinder, no studies have been carried out on third-trimester haemorrhage. This is why we conducted this study on the epidemiological and prognostic characteristics of haemorrhage in the third trimester of pregnancy at the Zinder mother and child health center (CSME).

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General objective :

To reveal the epidemiological and prognostic aspects of haemorrhage in the third trimester of pregnancy at the CSME.

Specific objectives :

- To determine the frequency of haemorrhage in the third trimester of pregnancy;
- To reveal the sociodemographic aspects of these parturients
- To determine the maternal-fetal prognosis of haemorrhage in the third trimester of pregnancy.

Patients and Methods

The study took place at the Centre de Santé Mère et Enfant (CSME) de Zinder in the town of Zinder. The CSME is located to the south of the town of Zinder, bounded to the east by the RN11 road linking the town to Magaria, and to the west, north and south by private dwellings. The study was descriptive, cross-sectional and analytical, running from February 1 to September 30, 2022, a period of 8 months. The target population was all pregnant women admitted to the Zinder Mother and Child Health Center.

Any parturient admitted to the center for hemorrhage during the third trimester of pregnancy during the study period was included in the study.

Parturients admitted for any pathology other than third-trimester hemorrhage were excluded.

Sociodemographic variables, mode of transport, mode of admission, general condition, Glasgow score, hemodynamic status, length of stay and maternal-fetal prognosis were studied.

Data were collected using a survey form filled in by interviewing patients and/or those accompanying them, and through the following media: consultation or ANC notebook, partogram, parturient file, referral form and operative report.

Data were recorded and analyzed using Microsoft Office 2016 and Epi info version 7. Chi2 statistical tests were used to compare categorical variables, and Kruskal-Wallis and Student tests to compare proportions and means. The threshold of statistical significance was less than 5%. Patient anonymity was respected, and family consent was obtained. Research authorization was obtained from the CSME authorities in Zinder.

Results

During the study period, 277 cases of hemorrhage in the third trimester of pregnancy were recorded out of 3957 obstetric admissions, a frequency of 7%.

Table 1: Distribution of patients according the age ranges

Agés ranges (years)	Number	Percentage
Under 18	7	2,56
18 to 35	224	80,87
Over 35	46	16,60
Total	277	100,00

The mean age of our patients was 29.78±6.64 years, with extremes of 15 and 45 years. The 18-35 age group was predominant. Pregnant women from rural areas accounted for 67.87% of cases.

Table 2: Distribution of patients by education level

Education level	Number	Percentage
Uninstructed	288	82,31
Elementary	27	9,75
Secondary	17	6,14
Superiorr	5	1,82
Total	277	100,00

Uneducated patients dominated with 82.31%, while referrals from other health facilities accounted for 78.34% of cases.

Table 3: Distribution according to referral district and distance from the CSME

Referral district	Mileage	Number	Percentage
Zinder city	-	73	33,67
Mirriah	21	80	38,87
Takiéta	57	28	12,90
Tanout	148	9	4,15
Damagaram Takaya	81	6	2,76
Matamèye	89	9	4,15
Doungas	128	2	0,92
Magaria	92	10	4,61

Parturients from Zinder, Mirriah and Takiéta were predominant

Table 4: Time from onset of bleeding to consultation

Time (hours)	Number	Percentage
≤ 1	104	37,55
2 à 4	148	53,43
> 4	25	9,02
Total	277	100,00

The admission time was 2 to 4 hours for 53.43% of parturients

Table 5: Breakdown by mode of transport

Mode of transport	Number	Percentage
Ambulance	170	61,37
Moto – taxi (tricycle)	61	22,02
Personal vehicle	20	7,22
Public transport	19	6,86
Moto	7	2,53
Total	277	100,00

Transport was medicalized for 61.37% of patients, but 22,02% by tricycle (motorcycle cab).

Table 6: Presentation of patients according to gestures

Gesture	Number	Percentage
Primigeste	46	16,61
Paucigeste	44	15,88
Multigeste	28	10,11
Grande multigeste	159	57,40
Total	277	100,00

The average gesture was 6.11, with extremes ranging from 1 to 14. Large multiple gestations were the most frequent (57.40%). The number of prenatal consultations was predominant, ranging from 1 to 3.

Table 7: Distribution of parturients according to general condition on admission

General condition	Number	Percentage (%)
Good	208	75,09
Bad	69	24,91
Total	227	100,00

Few parturients were in poor general condition on admission. Blood pressure was impregnable in only 10 parturients.

Table 8: Distribution of patients by hemoglobin level

Hemoglobin level	Number	Percentage (%)
Not made	1	0,36
< 7g/dl	90	32,49
7 to 11g/dl	162	58,48
> 11g/dl	24	8,66
Total	277	100,00

The mean hemoglobin level was 8.13 g/dl, with extremes of 2.7 and 15.4 g/dl.

Table 9: Distribution of patients by etiology of bleeding

Diagnostic	Number	Percentage (%)
HRP	154	55,60
Ruptured uterius	49	17,69

Placenta prævia	69	24,90
HRP+PP	5	1,81
Total	277	100,00

Retroplacental hematoma was predominant, followed by placenta previa, and more than half the patients had received a blood transfusion.

Table 10: Distribution of patients according to complications

Complications	Number	Percentage (%)
No	141	50,90
Anemia	113	40,79
Hemorrhagic shock	10	3,61
Suppuration	6	2,17
Obstetric fistula	2	0,72
Chest pain (embolism)	1	0,36
Hemostasis disorders	3	1,08
Sepsis	1	0,36
Total	277	100,00

Anemia was the main complication observed, followed by hemorrhagic shock. The average hospital stay was 4.03 days, with extremes of 0 and 14 days. Patients staying between 4 and 7 days were more prevalent. We recorded 14 maternal deaths, a rate of 5.05%, and stillbirths accounted for 39.35%.

Discussion

During the period 3957 patients were admitted, including 277 cases of third-trimester haemorrhage, i.e. a frequency of 7%, data similar to those found by Diallo FB et al [16] in 2020 in Guinea Conakry with 7.33%. In contrast, Mariko S [17] in Burkina Faso, Issoufou [10] in Niger and Kumar [58] in India recorded 6.33%, 6.52% and 2.79% respectively.

However, Andriamanantsao JR [18] in 2018 in Madagascar found a rate of 8.12%. This is explained by the fact that the CSME is the only regional referral center for gynecology-obstetrics.

The average age was 29.75±6.64 years, with extremes of 15 and 45 years. The 18 to 35 age group was the most concerned, with 80.87%. The same observation was made by Haidara M et al [14] and Izard [6] with 30.5 and 30.9 years respectively. The young age of our parturients could be explained by the youth of the population and early maternity.

Most of our parturients (82.31%) had no schooling; Sangaré [15] in Mali recorded a rate of 90%.

On the other hand, Moussa B et al [8] and Haidara M et al [14] obtained 58.10% and 54.6% respectively of uneducated women.

This could be explained by a high illiteracy rate (77.9%)

among women according to the 2012 population census in Niger [19].

In 93.14% of cases our parturients were without profession (housewives).

Similarly Sangaré [15], Coulibaly Y [7] and Moussa B et al [8] had found a respective rate of 97.10%, 77.20% and 78.20%.

Our high rate of housewives would be justified by the low level of education which is a source of unemployment.

Referrals from other health facilities accounted for 78.34%, which was close to the 75% found by Issoufou I [10] at the Niamey MIG.

On the other hand, Diallo FB et al [16] and Haidara M et al [11] found 66.33% and 63.20% referrals respectively.

This could be explained by the fact that the CSME received obstetric referrals from the Zinder region.

In 53.43% of our parturients, the admission time was between 2 and 4 hours after the onset of symptoms. Sangaré D [15] reported an admission delay of 31.40% between 2 and 4 hours. On the other hand, Andriamanantsao JR [18] and Sonogo D [20] found a delay of 1 and 12 hours respectively, of 29.41% and 47.9%. Large multiparous women represented 44.7% of our parturients. This rate was close to that of Sangaré D [15] with 45.70%. The teams of Nisar et al [21], Iboun S [9] and Moussa B et al [8] revealed a predominance of multiparous women in 62.5%, 47.47% and 32.34% respectively. The predominance of large multiparous women in our series can be explained by the fact that multiparity is a risk factor for hemorrhage in the third trimester of pregnancy [22-23]. No ANC was performed in 32.13% of our parturients. The same finding was made by Izrar [6] with 33.60%. On the other hand, the teams of Sangaré D [15] and Mariko S et al [17] reported respectively that 47.17% and 48% of parturients did not undergo ANC. This low rate of ANC could be due to patient ignorance and low economic income. BCF was absent in 64.62% of cases. This rate was in line with that found by SANOGO MB [24] with 65.70%. However, it was higher than those found by Sangaré D [15] and Coulibaly Y [7] with 51.43% and 21.90% respectively. Our result can be explained by the severity of the haemorrhage affecting the foetus. Hemoglobin levels were below 7g/dl in 32.49% of parturients. The teams of Haidara M et al [14] and Mariko S et al [17] recorded 20.10% and 13.8% respectively. However, Lankoande et al [25] found 82%. Our data would be justified on the one hand by the abundance of bleeding and on the other by the delay in consulting a doctor.

In our study, caesarean section was chosen as the mode of delivery for 55.23% of parturients. This rate was lower than those reported by Issoufou I [10], Haidara M et al [27] and Purohit et al [26], with 80.47%, 93.75% and 78.35%

respectively. Our rate could be explained by the predominance of vaginal deliveries and uterine rupture. Blood transfusion was used in 57.40% of cases. This was higher than the 23.29% reported by Issoufou I [10] at the Niamey MIG. It was lower than those reported by Andriamanantsao JR [18] and Samal et al [27] with 76.47% and 87.1%. This result may be explained by the degree of anemia in our parturients. Anemia was the main complication recorded in this study, with a rate of 40.79%. Similarly, Diallo FM et al [16] in Guinea and Andriamanantsao JR [18] in Madagascar recorded 41.60% and 41.17% anemia cases respectively. On the other hand, Moussa B et al [8] in Burkina Faso found 60.95%. Hemostasis hysterectomy was performed in 10.11% of cases. The average length of stay for our patients was 4.03 days, and 70.39% of them stayed for four days or more. However, Andriamanantsao JR [18] and Sangaré D [15] reported stays of 4 days or more in 90.20% and 47.15% of patients respectively. We deplored 5.05% of maternal deaths. This result was similar to that reported in 2014 by Issoufou I [10] at the Niamey MIG with 5.88%. The teams of Diallo FM et al [16] in Guinea, Mariko S et al [17] in Mali and Moussa B et al [8] in Burkina Faso had recorded a respective rate of 3.5%, 12% and 13.33% of maternal deaths. Our rate could be due to non-medicalized transport and delays in consultation and management. Stillbirths accounted for 60.65% of cases in our series. This result was higher than that reported by Issoufou I [10] at the Niamey MIG with 41.67%. Moussa B et al [8] reported 74.77% of perinatal deaths. Retroplacental hematoma and uterine rupture were the main causes of intrauterine fetal death in our study. Thesis supported by the teams of Diallo FM et al [16] and Mariko S et al [17]. These pathologies were a source of fetal suffering.

Conclusion

Haemorrhage during the third trimester of pregnancy is frequent at the Zinder Mother and Child Health Centre. Socio-demographic factors play a decisive role in its occurrence. The prognosis is marked by high maternal-fetal morbidity. Early diagnosis and rapid, appropriate treatment would improve maternal-fetal prognosis.

Keywords: Third-trimester hemorrhage, epidemiology, prognosis, CSME, Zinder.

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