

Therapeutic Aspects, Maternal and Fetal Prognosis of Eclampsia in the Gynecology and Obstetrics Department of Sikasso Hospital

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Abstract

Original Research Article

Objective: To study the therapeutic aspects, the maternal and fetal prognosis of eclampsia from January 1, 2016 to December 31, 2017 in the gynecology-obstetrics department of Sikasso hospital. **Methodology:** We have carried out a prospective and descriptive study of cases of eclampsia. It concerned pregnant women, parturients and admitted mothers with signs of hypertension during pregnancy. **Results:** Nicardipine and Magnesium Sulfate were the most commonly used antihypertensives. Caesarean section was performed in 63.3% of cases. Stillbirth rate was 30.3% of stillbirths, maternal lethality was 11%. **Conclusion:** Eclampsia is a very common pathology in young women and before childbirth. Maternal and fetal care remains multidisciplinary. Nicardipine and magnesium sulfate were the most commonly used antihypertensives. Vaginal delivery and caesarean were performed. The majority of newborns had a normal weight and more than half were alive 69.7%.

Keywords: Eclampsia, therapy, prognosis, maternal, fetal.

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I. INTRODUCTION

Maternal mortality is a public health problem and its rate is an indicator of a country's development (Diarra I 2005). In West Africa, according to the WHO, maternal and neonatal mortality rates are very high with respectively 700 per 100,000 live births and 83 deaths per 1,000 live births. In Mali, the maternal mortality rate is 368 per 100,000 live births according to EDS III Mali. Arterial hypertension (HTA) during pregnancy is the third cause of maternal death and the first cause of neonatal mortality in the world (Lansac J *et al.*, 1997).

Like other countries, Mali has adopted the eight Millennium Development Goals (MDGs) adopted by the United Nations. MDG 5 aims to reduce the maternal mortality ratio by three quarters between 1990 and 2015.

Eclampsia is a formidable complication of pregnancy-associated hypertension. Although it has become rare in developed countries, it remains relatively frequent in developing countries (Luton D *et*

al., 1997). In Africa, the hospital incidence of eclampsia varies between 0.58% and 6.82% (WHO). In West Africa, eclampsia represents on average 12.7% of the causes of maternal death (Coulibaly ML, 2002). At the Brazzaville University Hospital in Congo, according to the WHO its incidence is 0.58% with 8.8% maternal death and a stillbirth rate of 33.4% in 2009. In Mali the incidence of eclampsia is 1.13% with 15.4% maternal death and 24.6% stillbirth.

The audit of maternal deaths from 2008 to 2011 at Sikasso hospital showed that eclampsia represents 15.78% of maternal deaths and is also the 2nd cause of maternal death.

Pre-eclampsia, the most formidable form of this association is especially common in young primigravidae under 25 years of age.

Complications of eclampsia are frequent and very serious, both maternal and fetal. Despite the high frequency of this pathology, no study has been carried

out on eclampsia at the Sikasso hospital. This is how the present study was initiated to evaluate cases of eclampsia in the Gyneco-Obstetrics department of Sikasso Hospital from January 1, 2016 to December 31, 2017.

II. MATERIALS AND METHOD

1. Study Framework

This was a prospective and descriptive study undertaken in the obstetrics and gynecology department of Sikasso Hospital over a period of two (2) years from January 1, 2016 to December 31, 2017.

The study concerned all pregnant women, parturients and women admitted to the gynecological-obstetrical department during the study period. Any woman admitted antepartum, perpartum or postpartum to the department and presenting a tonic-clonic seizure associated with hypertension and positive proteinuria.

III. RESULTS

1. Frequency

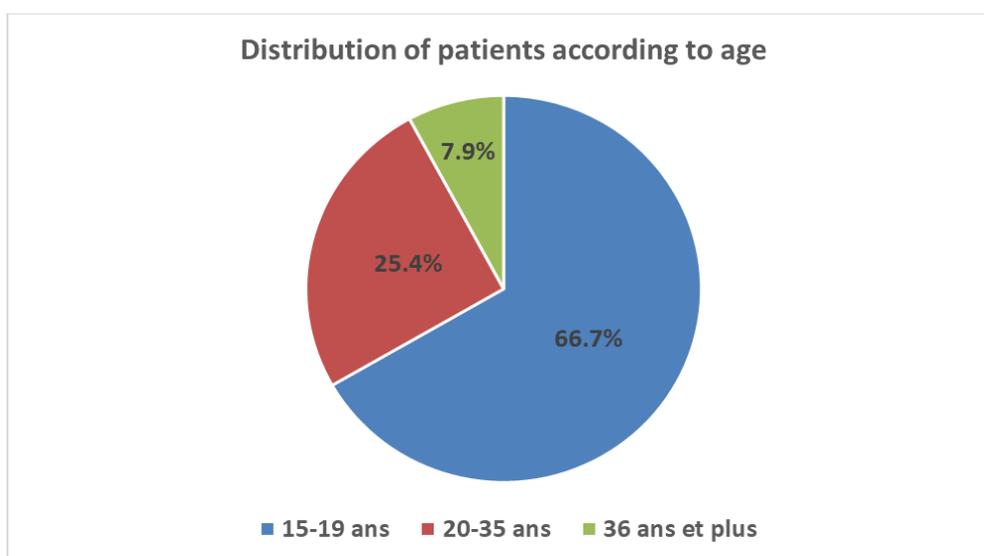
During the period of our study, we recorded 63 cases of eclampsia out of the 5715 patients admitted, ie a frequency of 1.10%.

2. Age

Table I: Distribution of patients according to age

Age group	Number	Percentage
15-19	42	66.7
20-35	16	25.4
35 and over	5	7.9
Total	63	100

The age group from 15 to 19 years old was the most affected with 66.7% of cases.



3. Medical Treatment

- Anticonvulsant

Table II: Distribution of cases of eclampsia according to the anticonvulsant treatment received before their evacuation

Anticonvulsants	Effective	Percentage
Diazepam	38	60.3
Magnesium sulfate	25	39.7
Total	63	100

Diazepam was the most used drug with 60.3%.

- Antihypertensives

Table III: Distribution of cases of eclampsia according to the antihypertensives administered

Anti-hypertensive	Number	Percentage
Methyldopa (Aldomet)	3	4.8
Nicardipine	40	63.5
Nicardipine+Nifedipine	12	19.0
Not received	8	12.7
Total	63	100

Nicardipine was the most used antihypertensive with 63.5% followed by the association nicardipine and nifedipine with 19%.

4. Obstetric Treatment

➤ Delivery Route

Painting IV: Distribution of patients according to mode of delivery

Mode of delivery	Number	Percentage
Simple vaginal	9	27.3
Forceps	3	9.1
Emergency cesarean section	21	63.6
Suction cup	0	0
Total	33	100

Caesarean section was performed in 63.6% of cases.

5. Transfer to Intensive Care

Table V: Distribution of patients according to transfer to intensive care unit

Transfer to intensive care	Number	Percentage
Yes	43	68.3
No	20	31.7
Total	63	100

Patients who were transferred and cared for in the intensive care unit represented 68.3%.

➤ Duration of Hospitalization

Table VI: Distribution of patients according to length of hospitalization (in days)

Duration of hospitalization	Number	Percentage
<3	14	22.2
4-7	44	69.8
8-15	5	7.9
Total	63	100

6. Evolution

➤ Complications

Table VII: Distribution of patients according to type of complication

Causes	Number	Percentage
Acute renal failure	3	33.3
PBO	1	11.1
Infection	2	22.2
Hemorrhage	2	22.2
Eclamptic status	1	11.1
Hellp syndrome	0	0
Total	9	100

Acute renal failure was the most found complication with 33.3% followed by hemorrhage with 22.2%.

7. Maternal prognosis

Table VIII: Distribution of patients according to maternal prognosis

Prognosis	Number	Percentage
Alive	56	88.9
Died	7	11.1
Total	63	100

There were 11.1% maternal deaths.

8. Newborn Information:

- Condition of newborns at birth

Table IX: Condition of newborns at birth

Newborn	Number	Percentage
Alive	23	69.7
Stillborn	10	30.3
Total	33	100

Stillbirths represented 30.3%.

- Resuscitation of newborns

Table X: Distribution of newborns according to resuscitation

Resuscitated newborn	Number	Percentage
Yes	15	65.2
No	8	34.8
Total	23	100

65.2% of Newborns were resuscitated.

- Birth weight

Table XI: Distribution of newborns according to birth weight in grams

Weight	Effective	Percentage
< 1000	5	15.2
1000-2499	11	33.3
≥ 2500	17	51.5
Total	33	100

Weights of 1000-2499 grams were 33.3%.

- The Newborn's State of Consciousness

Table XII: Distribution according to the APGAR score at birth

APGAR in the 1st Minute	Effective	Percentage
Less than 7	8	34.8
Greater than or equal to 7	15	65.2
Total	23	100

The APGAR score at birth greater than or equal to 7 accounted for 65.2%.

IV. DISCUSSION

Diastolic hypertension was found in our study in 74.6% of cases with extremes of 90 and 15cm Hg and was severe in 19%. (Konaté S, 2008) noted 5.92% of cases with extremes ranging from 10 and 14 cm Hg. All examinations were not feasible in an emergency.

However NFS, fasting glycaemia, creatinine, transaminase, thick smear, fundus examination for maternal impact were the most available. NFS showed a hemoglobin level < 7g/dl in 5 patients, ie 7.9%. One case of thrombocytopenia was observed. The blood sugar level achieved in 11 patients was high in 1 case (9.1%). The thick drop was positive in 7 patients or 11.1%. Urinary dipstick proteinuria was significant in all cases. Emergency measures applied to all patients included hospitalization, establishment of a peripheral

venous line, placement of a urinary catheter, volume expansion, treatment of seizures with an anticonvulsant, and administration of an antihypertensive.

Nicardipine was the most used antihypertensive 76.2%. Magnesium Sulfate was used in 39.7% of patients. Vaginal delivery was performed in 30.7% of cases including 6.7% by forceps; cesarean section was performed in 63.3% of cases. (Diarra I, 2005) at the CHU Gabriel Touré found 88% caesarean section and 12% vaginal delivery. This difference can be explained by the systematic nature of caesarean sections at the CHU Gabriel Touré in the event of eclampsia. In the Moma survey carried out in West Africa by (Cissé CT *et al.*, 2003), the cesarean section rate found in cases of eclampsia was 87%. The combination of antipyretics, antimalarials, and sometimes antibiotics was performed in 7 patients who had a positive thick smear and a fever on admission. In our series, we found 14.3% complications, (Diarra I, 2005) reported 34% complications; (Konaté S, 2008) identified 6.12% of complications. This may be due to the delay in treatment and the unavailability of drugs. We recorded 15.2% of premature newborns and 51.5% of newborns had a normal weight. This rate is comparable to that of (Pambou O *et al.*, 1999) who found 15.62% of premature babies.

In our study, 69.7% of newborns were alive and 30.3% stillborn. These rates are comparable to those of (Konaté S, 2008) 75.60% live births and 24.40% stillbirths. This rate can be explained by the delay in treatment. We recorded in our series 7 cases of maternal death, or 11.1%. Of the 7 cases, 5 cases of death were recorded in intensive care. This result corroborates with that of (Diarra I, 2005) who found 12% and is higher than that of (Konaté S, 2008) who found 4.26%. This could be explained by the usually long evacuation time and by the lack of material and equipment in the intensive care unit. The patients who were transferred and taken care of in the intensive care unit represented 63.7% (43 patients). However, some eclamptics in the series of (Konaté S, 2008) and (Diarra I, 2005) which should be transferred could not be transferred due to lack of space in intensive care. We recorded 27 cases of transfer to pediatrics, i.e. 42.9% for prematurity, hypotrophy, neonatal suffering, or nutritional care, (Konaté S, 2008) had recorded 9 cases of transfer to pediatrics.

Study Limitations

- Absence of prenatal consultation book or badly filled out book;
- Certain evacuations without a parthogram or without an evacuation card;
- Insufficient information on certain variables;
- Late use of obstetric care and emergency resuscitation services;

- The low level of health culture of the population probably linked to the low rate of education.

V. CONCLUSION

We found 69.8% of systolic hypertension with often extremes of 14 and 22cm Hg. Diastolic arterial hypertension was found in 74.6% of cases with extremes of 90 and 15cm Hg. were not feasible in an emergency. The examinations that were requested were NFS, fasting blood sugar, creatinine, transaminase, thick blood test, fundus examination for maternal impact. Emergency measures applied to all patients included hospitalization, establishment of a peripheral venous line, placement of a urinary catheter, volume expansion, control of convulsions with an anticonvulsant and administration of an antihypertensive. Nicardipine was the most used antihypertensive 76.2%. Magnesium Sulfate was used in all parturients. We found only 30% of vaginal delivery including 6.7% by Forceps; cesarean section was performed in 63.3% of cases. %. The combination of antipyretics, antimalarials, and sometimes antibiotics was performed in 7 patients who had a positive thick smear and a fever on admission. We recorded 15.2% premature newborns and 51.5% normal weight newborns. In our study, 69.7% of newborns were alive and 30.3% stillborn.

Both maternal and fetal care remains multidisciplinary. Quality prenatal follow-up, quality technical facilities, the availability of drugs, the schooling of girls are levers which make it possible to reduce the frequency of eclampsia.

Conflicts of Interest: None.

Author Contribution: All authors contributed to the writing of the article.

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