Scholars Journal of Applied Medical Sciences
Abbreviated Key Title: Sch J App Med Sci
ISSN 2347-954X (Print) | ISSN 2320-6691 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Obstetrics and gynaecology

Epidemiology and Management of 144 Eclampsia Patients at Sikasso Hospital

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DOI: 10.36347/sjams.2021.v09i09.004 | **Received:** 25.07.2021 | **Accepted:** 31.08.2021 | **Published:** 04.09.2021

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Abstract **Original Research Article**

The aims of this study were to analyze the epidemiological aspects and evaluate management of eclampsia in our gynaeco-obstetrics department. It's a retrospective descriptive study of data for 144 cases of eclampsia admitted in our service from 1st January 2011 to 31 December 2014. During this period, among 10997 hospitalizations, we have collected 144 cases of eclampsia, accounting for 1, 30% of frequency. Patient mean age was 21ans. They were generally housewife (76%) and nulliparous (41%). Sixty percent of patients had BASP ≥ 110 mmHg. Eclampsia crisis happened to pregnant women during antepartum moment in 27% of patients, per-partum period in 29% and in post-partum period for 44%. Magnesium sulphate and nicardipin were the most used anticonvulsant and hypotensive drugs. Cesarean section was carried out in 48% of patients. Maternal complications (09 cases) were essentially: acute kidney failure (4 cases), Repeated eclampsia crisis (3cases), RPH (3cases) le Hellp's syndrome (1 case), APO (1 case). Maternal lethality rate was 7%. Still birth rate was 22, 9%. Eclampsia is a frequent pathology in our activities. It's always leading to complications who could affect mother and child health state, either their life. Early detection follow by multidisciplinary and adequate management is the only way to improve the prognostic of the couple mother-child.

Keywords: Eclampsia, Cesarean section, acute renal failure, Couple mother-child Prognostic.

I. INTRODUCTION

Eclampsia is a convulsive state that occurs with repeated attacks during the last months of pregnancy, labor or more rarely after childbirth, followed by a comatose state [1]. It is an acute paroxysmal attack of vasculo-renal syndromes. It is a serious complication of hypertension associated with pregnancy. Although it has become rare in developed countries, it remains relatively common in developing countries [2]. In Africa, the hospital incidence of eclampsia varies between 0.58% and 6.82% [3, 4]. In Mali, the incidence was 1.13% with 15.4% maternal death and 24.6% stillbirth [5]. At the G-spot CHU the incidence of eclampsia in 2008 was 6.82% with 4.26% maternal deaths and 24.4% fetal deaths [6]. At Sikasso hospital according to a study carried out on audits of maternal deaths in 2011 [7], eclampsia represented 15.78% of the mortality rate, it was the second cause of maternal death after postpartum hemorrhages. Complications of eclampsia are common and very serious, both maternal and fetal. These are the cause of the high fetal-maternal mortality and morbidity. With more than 50,000 deaths worldwide, eclampsia remains a leading cause of maternal mortality [8]. However, regular monitoring of pregnancy through quality prenatal consultations with screening for hypertension and proteinuria can reduce the risk of eclampsia. In a hospital environment, the management of this pathology sometimes requires a multidisciplinary intervention. No research studies have been done on eclampsia at Sikasso Hospital. The aim of our study was to determine the epidemiological profile of eclampsia, to assess management and to assess the maternal and perinatal prognosis.

II. METHOD

This was a 4-year descriptive retrospective cross-sectional study (January 1, 2011 to December 31, 2014) on 144 cases of eclampsia for which management was carried out in the gynecology and obstetrics department of the Sikasso hospital (2nd referral hospital according to the health pyramid). The obstetric gynecology department at Sikasso Hospital has a capacity of 33 beds and performs around 1,650 deliveries on average per year. Were included in the study all patients received and treated for generalized convulsions and / or disturbance of consciousness occurring between the 20th week of amenorrhea (AS) and the 6th week postpartum in a context of high blood pressure. All other causes of seizures in the absence of hypertension and / or significant proteinuria were not included in the study. Each patient had an individual obstetrical file in which clinical and paraclinical data were mentioned. The technique consisted of reading the obstetric records and recording them on the questionnaire. The media used were: birth registers and records, antenatal consultation records, hospitalization records, operative report registers, partograms and discharge registers. The variables studied were: socio-demographic characteristics, course of pregnancy, childbirth and neonatal parameters. Processing and analysis was performed on software, SPSS 19.0 and Microsoft office Excel and Word 2007.

III. RESULTS

Frequency: During the study period, we collected 144 cases of eclampsia out of 10,997 patients received during the pregnancy-puerperium period which represents a frequency of 1.30%.

Sociodemographic characteristics: The general characteristics of the patients are detailed in Table 1. The mean age of the patients was 21 years with extremes of 15 and 38 years). The 15-19 age group was the most represented, at 47% of cases. These were housewives in 76% of cases, first-time mothers (68%) and single women in 20% of cases. The patients came from urban areas in 54% of cases against 46% for rural areas. Evacuated patients represented 32% of the cases, while 68% of them were referred directly by the parents. Almost 2/3 of our patients, or 65%, had not done any prenatal consultation. Ninety-five percent (95%) of our patients had no medical history.

Clinical aspects: The reason for admission was mainly seizure in 75% of cases. More than half of our patients (62.5%) had had their first seizure at home. The mean number of seizures was 3.4 seizures with extremes of 1 and 6 seizures.The gestational age was less than 37 weeks in 30% of our patients and 4% were carriers of a multiple pregnancy. Severe arterial hypertension was found in 39.6% of our patients against 59.7% for moderate arterial hypertension. The seizure occurred antepartum in 27% of patients, perpartum in 29% and postpartum in 44%.

Supported: MgSO4 was the most widely used anticonvulsant (96.5%) and Nicardipine was the most widely used antihypertensive (86.8%). Cesarean section was performed in 48% of patients. Thirty-two percent (32%) of our patients stayed in the intensive care unit. The length of hospitalization was between 4 to 7 days for 67% of the patients.

Prognosis: Maternal and fetal complications are summarized in Table 2. Acute renal failure was the most prominent maternal complication with 02%. Fetal complications were dominated by low birth weight with 42% of cases. Maternal lethality was 7%. Perinatal mortality affected 22.9% of births.

Table-1: General characteristics of the study population

Age	Effective	Percentage
15-19years	68	47%
20-34years	69	48%
35-44yerars	7	5%
Parity		
Primiparous	98	16%
Pauciparous	29	16%
Multiparous	19	26%
Origin		
Health center	99	69%
House	45	31%
Residence		
Rural area	78	54%
Urban area	66	46%
Time of occurrence		
Ante partum	39	27%
Per partum	42	29%
Post partum	63	44%

Table-2: Maternal and fetal complications of eclampsia

Complications	Effective	Percentage
Maternal complications		
Acute renal failure	4	0.2%
Acute lung edema (OAP)	1	0.06%
Post-operative infection	2	1.3%
Retro-placental hematoma (HRP)	3	2%
eclamptic state of illness	3	2%
Hellp syndrome	1	0.06%
Fetal complications		
Premature deliveries	25	16%
Fetal asphyxia	24	16%
Intrauterine growth retardation	39	26%
Fetal death in utero	19	12%

DISCUSSION

1. The limits and constraints of the study

The retrospective nature of our study was a source of limitations, in particular by:

- The lack of a computerized file archiving service
- The difficulty of obtaining additional information.

2. Frequency: Having become a rare complication in developed countries thanks to the detection and early management of signs of pre-eclampsia, eclampsia remains common in our developing countries. In our series the frequency was 1.30%. This high frequency corroborates with many other African studies [9, 10]. However, it is much higher than that reported by Ducarme *et al*. [4] which were 0.08%. This difference in the frequency of eclampsia could be linked to insufficient monitoring of pregnancies in our developing countries compared to developed countries which have better organization of prenatal monitoring and better care of patients.

3. Sociodemographic characteristics: The epidemiological profile of our patients was that of a primipara (68%), on average 21 years old, woman in the outbreaks (76%), poorly followed (75%) with a gestational age greater than 37 weeks (70.5%) coming from rural areas (46%) and having had their first crisis at home (62.5%). Most authors agree that adolescent girls are the most affected by this pathology, which could be explained by a tendency of this layer to be less frequent in ANC. The predominance in first-time mothers could be explained by the inadequacy of the maternal organism to the upheavals induced by pregnancy and to placental and renal hemodynamic disorders. Primiparity is recognized as one of the risk factors for eclampsia by some authors [11]. If the absence of ANC favors the onset of obstetric complications [5], attention should be paid to their quality. Only good-quality ANC can screen for severe forms of pre-eclampsia and provide adequate management, which is the only way to decrease the frequency of eclampsia and improve the fetal-maternal prognosis. High blood pressure is the first red flag in this eclampsia context. It appears as a predictive criterion for a poor fetal-maternal prognosis.

4. Clinical aspects: In the literature, many authors agree that the progression of pregnancy-induced disease from preeclampsia is to eclampsia. In fact, all of our patients had presented with pre-eclampsia before the onset of the crisis. The onset of a seizure is not conditioned by the presence of all the signs of pregnancy disease, especially as the warning signs can be difficult to interpret due to their atypical characteristics. The eclampsia attack is accompanied by a state of consciousness disorder ranging from daze to coma. In our series, 85% of the patients had been found in a state of obnubilation on admission. Maternal complications affected 9.7% of our patients. These complications such as acute renal failure (4 cases) HRP (3 cases), maleclampsia (3 cases) and HELLP syndrome (1 cases) are reported by other authors [12,13]. Postpartum eclampsia was much more represented in our study with 44%. Cesarean section affected 48% of our patients. The preferred route of delivery by many authors remains cesarean section [14]. In fact, eclampsia is a vital emergency for both mother and child, and the delays in evacuation highlight inadequacies in patient care. Emergency measures applied to all patients included hospitalization, use of a peripheral venous line, insertion of a urinary catheter, volume expansion, control of seizures with an anticonvulsant and administration of an antihypertensive agent and monitoring of vital parameters (Pulse, BP, respiration, temperature, urine output and consciousness).

5. Support: Medical treatment was instituted in all patients. This treatment combined several drugs. These were antihypertensive drugs, the most used of which was nicardipine in 86.8% of cases, anticonvulsants, the most widely used of which was magnesium sulfate (MgSO4) in 96.5% of cases, oxygen therapy and vascular filling in 100% of cases. The blood transfusion was performed in eight (8) patients. Thirty-two percent (32%) of our patients stayed in the intensive care unit.

6. Prognosis: Eclampsia was fatal in 7% of our patients. This result is similar to that reported by Bassolé Armel Y [9] which was 8.3% of maternal deaths. Case fatality rates lower than ours have been reported by Pottecher TH and AL [14] (2.2%) and Ducarme G. in France [4] (zero maternal mortality). This could be explained by a much better and faster management of these eclampsia cases and a perfect collaboration between the obstetrics and intensive care unit in these developed countries. We noted 22.9% perinatal mortality. Our high rate of stillbirth could be related to prematurity and the delay in obstetric care.

CONCLUSION

Eclampsia is a frequent condition in our department. It still remains the source of many complications with a high maternal and fetal case fatality rate. The detection and early and adequate multidisciplinary management of hypertensive states associated with pregnancy are the only guarantees of a better prognosis for the mother-child couple.

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