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ORIGINAL ARTICLE

SERIOUS PRE-ECLAMPSY: URGENCY ASSISTANCE ASPECTS

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ABSTRACT

Introduction: Preeclampsia (PE) is defined as the appearance, after the twentieth week of gestation, of systemic arterial hypertension (systolic arterial pressure - SBP - greater than or equal to 140 mmHg or Diastolic - DBP - greater than or equal to 90 mmHg as measured in two occasions at 4 hours interval) associated with daily proteinuria above 300 milligrams (mg). The severity of this condition involves the failure of several organs associated with peak pressure and may cause deleterious effects of multiple systems, especially vascular, renal, hepatic and cerebral. Objective: To establish the clinical and epidemiological profile of pregnant women with severe pre-eclampsia. Methods: This is an observational, retrospective, analytical study with patients seen in the emergency room from January to June of 2017, in a total of 12,712. Being selected those with gestational age greater than 20 weeks, presenting hypertensive crisis at the time of hospitalization in the HMDI totaling 81 patients. Results: This group was limited to the study of pregnant women presenting only severe preeclampsia. The number of pregnancies in this group was multiparous with 58% and primipara of 32%. Regarding gestational age, it was of over 20 weeks. Regarding the use of previous home medication 59% did not use any medication. Regarding the clinical picture, 60% did not present imminent signs for preeclampsia. The interruption of pregnancy was prescribed in 51% of the patients, being 68% by cesarean section. They did not perform sulfate in 84% of the patients and in those who were hospitalized also did not perform in 78% of the patients. Conclusion: The frequency of imminent eclampsia within a group of patients with severe preeclampsia was 39.5%. The frequency of sulfate use in patients with severe preeclampsia presented in this study was 16%. The preferred delivery route was cesarean section with 68% and fetal lethality rate was 5%.

KEYWORDS: PRE-ECLAMPSIA, SEVERE, SCREENING.

INTRODUCTION

Gestational hypertensive syndromes are classified, according to the National Heart, Lung and Blood Institute in 2000, as chronic hypertension, gestational hypertension, eclampsia, superimposed preeclampsia and preeclampsia, which is further subdivided into mild and severe. Pre-eclampsia (PE) means the appearance, after the twentieth week of gestation, of systemic arterial hypertension (Systolic Arterial Pressure - SBP - greater than or equal to 140 mmHg or Diastolic - DBP - greater than or equal to 90 mmHg measured on two occasions with a 4-hour interval) associated with daily proteinuria greater than 300 milligrams. Eclampsia, in turn, is understood when pre-eclampsia is accompanied by seizures. Chronic hypertension is defined as the increase in the aforementioned blood pressure levels, in the preconception period or before the twentieth week of gestation, or even when the pressure remains high after the twelfth week postpartum. When pre-eclampsia does not develop or the pressure normalizes after delivery, it is called transient hypertension. Gestational hypertension is one that also appears after half a gestation in previously normotensive women, but does not have proteinuria above 300 mg. Superimposed pre-eclampsia is characterized by chronic hypertension that presents a sudden increase in proteinuria, and / or pressure or some organic dysfunction (which may also have an increase in uric acid) [1].

Preeclampsia occurs in the 20th week of pregnancy, it is considered a specific condition of pregnancy, involving the failure of several organs, associated with hypertension, in which there are deleterious effects on multiple systems, particularly the vascular, renal, hepatic and cerebral [2].

Some are the severity criteria of pre-eclampsia, being oliguria (less than 500 ml in 24 hours); proteinuria greater than or equal to 3g in 24 hours; Systolic Blood Pressure greater than or equal to 160 mmHg; Diastolic Blood Pressure greater than or equal to 110 mmHg; serum creatinine greater than 1.1mg/dL; thrombocytopenia less than one hundred thousand; increased liver transaminases; presence of visual clouding, scotomas, headache, epigastric pain[1]. Due to

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the syndromic aspect of pre-eclampsia, in the absence of proteinuria, it is still diagnosed when there is hypertension associated with some evidence of target organ involvement. Complications make preeclampsia one of the main causes of maternal fetal mortality in the country [2].

The diagnosis is made through clinical and complementary exams. An exam widely used in pregnant women at risk is Doppler ultrasonography, it has been widely used as a test to detect preeclampsia in the first and second trimester of pregnancy, well before the appearance of clinical symptoms. This examination will check the blood flow velocity of the uterine artery [4].

Preventing pre-eclampsia is not possible due to the lack of knowledge of its etiology, and low-dose aspirin can be used for this purpose in high-risk cases.[3]

The treatment of pre-eclampsia is with antihypertensive drugs appropriate for pregnant women, where its effects promote the relaxation of the smooth muscle of the peripheral arteries and the decrease in vascular resistance, which can state that the prevention of pre-eclampsia is done through early diagnosis. In some cases, anticonvulsant medications should be used, when premonitory symptoms of the seizure are identified and having a confirmation in this situation, the medication must be used and the eclampsia eminence is confirmed, the obstetric conduct can cause the interruption of pregnancy. Thus, the mechanisms that trigger the disease must be determined and corroborated by public health [5].

As it is a pathogenesis with great relevance due to important and serious maternal and perinatal repercussions, it is necessary to determine the best conduct of hypertensive crises in the pregnancy, based on evidence.

The aim of this study is to establish the clinical and epidemiological profile of pregnant women with severe pre-eclampsia.

METHODS

This is a retrospective observational analytical study with patients seen in the emergency from January to June 2018, totaling 12,712. Those with gestational age greater than 20 weeks were selected, presenting hypertensive crisis at the time of admission to the HMDI, totaling 81 patients. Data were collected on a specific form. As for ethical aspects, it is highlighted that the research was based on Resolution no. 466/2012, and the rights of those involved are ensured, with the approval of the CAEE Ethics Committee 89798318.2.0000.8058.

RESULTS

There were 12,712 visits in the emergency department of the Hospital e Maternidade Dona Íris between January and June 2018, the screening was carried out based on the attendance form, 128 patients were screened and due to the lack of data, 47 files were excluded. The mean arterial pressure found in the study was 165 x 105 mmHg.

	Number of patients (N=81)	
Aspect	n	%
AGE		
< 18 years	5	6
18-35 years	64	79
> 35 years	12	15
TOTAL	81	100
PARITY		
1	26	32
2 to 4	48	58
≥ 5	8	10
TOTAL	81	100
GESTATIONAL AGE		
20w – 27w6d	10	12
>28w	71	88
TOTAL	81	100
USE OF PREVIOUS HOME MEDICATION / COMORBITIES		
No medication / comorbidity	48	59
With medication / comorbidity	33	41
TOTAL	81	100
MAIN PREVIOUS MEDICATIONS		
Methyldopa	29	88
Nifedipine	2	6
Atenolol	1	3
Cocktail (AIDS)	1	3
TOTAL	33	100

Table 1 - Distribution of cases of severe pre-eclampsia, according to the profile of pregnant women evaluated at Hospital e Maternidade Dona Íris, Goiânia, 2018.

	Number of patients (N=81)	
CLINICAL CONDITION	N	%
NO IMMINENCE SIGNS	49	60
WITH IMMINENCE SIGNS	32	40
TOTAL	81	100
EMERGENCY MEDICATION		
Yes	52	67
No	29	33
TOTAL	81	100
MEDICATIONS USED IN EMERGENCY		
Hydralazine	30	57
Hydralazine + nifedipine	9	17
Hydralazine + methyldopa	4	8
Nifedipine	4	8
Methyldopa	4	8
Hydralazine + nifedipine + methyldopa	1	2
TOTAL	52	100
INTERRUPTION OF PREGNANCY		
Yes	41	51
No	40	49
TOTAL	81	100
ROUTE OF DELIVERY		
CESARIAN DELIVERY	28	68
NORMAL DELIVERY	13	32
TOTAL	41	100
USE OF MAGNESIUM SULFATE		
Yes	13	16
No	68	84
TOTAL	81	100
USE OF MAGNESIUM SULFATE IN HOSPITALIZED PATIENTS		
Yes	13	22
No	47	78
TOTAL	60	100
FETAL DEATH		
Yes	4	5
No	77	95
TOTAL	81	100

Table 2 - Distribution of clinical data on severe pre-eclampsia, according to the profile of pregnant women evaluated at Hospital e Maternidade Dona Íris, Goiânia, 2018.

DISCUSSION

Pre-eclampsia occurs when there is an increase in blood pressure in pregnancy along with the presence of protein in the urine at any time after the 20th week [6].

The classification between preeclampsia ranges from mild to overlapping where mild: BP >140/90 (2 occasions spaced by 4h) proteinuria > 300 mg/24h, severe BP > 160/110 (2 occasions spaced by 4h) proteinuria > 5 g/24h; oliguria (<500 ml/24h); epigastric or upper right quadrant pain; visual or brain disorders or small amount of platelets in the blood < 100,000/mm^3; lung edema or cyanosis; superimposed: unexpected sudden elevated BP, appearance or sudden increase in proteinuria, hyperuricemia, HELLP Syndrome [7]. This group was limited to the study of pregnant women who have only severe pre-eclampsia.

Moura et al (2010) [8] says that maternal age is a determining factor of complications during the pregnancy period. The gestation of a young woman, as well as the pregnancy that occurs in old age, are considered of gestational risk for preeclampsia. In this context, the age of the studied group ranged from 15 to 42 years, thus representing the extremes of reproductive age, however the group with the highest prevalence was between 18 and 25 years. The study was carried out at Hospital das Clínicas, Universidade Federal de Goiás (HC-UFG), in 2005. It showed that of the 890 births at the Maternity Hospital of HC-UFG, and 129 pregnant women were diagnosed with Hypertensive Syndrome in Pregnancy, with obesity as a risk factor for pre eclampsia. Age over 30 years was a protective factor for pre-eclampsia[9].

Although hypertension may be the most common symptom of pre-eclampsia, it should not be seen as the initial pathogenic process. The mechanisms by which pre-eclampsia occurs are not determined [6].

The number of pregnancies in this group was multiparous with 58% and primiparous with 32%. Badria and Amarin (2005) [10] reveal that the values referring to mean arterial pressure do not change between primiparous and multiparous.

Regarding gestational age, women over 20 weeks were selected but divided into groups with the third semester having the highest prevalence, corresponding to 88%. Reis et al (2010)[11] reveal that there is still no consensus about the classification of pre-eclampsia as far as the moment of its onset during pregnancy is concerned. The most frequently used criterion for early/late differentiation has been the cutoff at 34 gestational weeks. However, onset before the 24th week is associated with high maternal and perinatal morbidity and a 50% chance of recurrence in subsequent pregnancies.

Regarding the use of previous home medication, 59% did not use any medication. In prenatal care, the identification of risk factors related to the development of pre-eclampsia is essential, in order to promote more careful surveillance in order to diagnose the first signs and symptoms of the disease. This assistance should be aimed at preventing the disease from getting worse and thus reducing maternal death [12].

Pascoal (2002)[6] em pacientes que progridem para pré-eclâmpsia grave ou eclâmpsia (convulsões), morte materna pode ocorrer, devido, principalmente, à hemorragia intracerebral. Regarding the clinical picture, 60% had no imminent signs of pre-eclampsia. Pascoal (2002) [6] reveal that patients who progress to severe pre-eclampsia or eclampsia (convulsions), maternal death can occur, mainly due to intracerebral hemorrhage. Severe persistent hypertension (diastolic above 110 mmHg), headache, visual disturbances, deterioration of renal function and HELLP syndrome are other signs of serious illness that require immediate termination of pregnancy, these being the main imminent symptoms. Termination of pregnancy was prescribed in 51% of the patients, 68% by cesarean delivery, it is known that in women with preeclampsia, it is recommended to induce labor with misoprostol[13]. Linhares et al (2014)[14] demonstrated that pregnant women with a history of pre-eclampsia or high blood pressure were 2.5 times more likely to evolve to cesarean delivery, when compared to patients who did not have such a history.

Some studies show contradictory results regarding the treatment of pre-eclampsia and it is admitted that some factors are important in the therapeutic decision. It is known that the best treatment is childbirth since a woman's symptoms usually seem to resolve after the baby is born. However, there are other treatments available to prevent peaks in blood pressure that can damage the woman's organs and prevent the fetus from being born prematurely. In severe cases, the best treatment is magnesium sulphate, as its use is proven to prevent and avoid seizures [15]. No sulphate treatment was performed in 84% of patients and in those who were hospitalized, it was not performed in 78% of patients. Magnesium sulfate (MgSO4) is the most commonly used agent for the treatment of eclampsia, however it should be used in severe pre-eclampsia to avoid complications [16]. According to ACOG and SOGESP recommendations in 2012, magnesium sulfate should be administered in patients with severe preeclampsia. The administration of magnesium sulfate should be suspended if the respiratory rate is less than 16 incursions/min, the parallel reflexes are completely absent and the diuresis is less than 100ml in the previous 4 hours, thus the importance of the patient being properly monitored when using this drug[17]. Eclampsia is estimated to occur in 1 in 200 cases of pre-eclampsia when magnesium sulfate is not used (PASCOAL, 2002)[5]. Orcy et al (2007)[18] the appropriate treatment for pre-eclampsia is focused on reducing the incidence of complications in these mothers, such as strokes and mortality from eclampsia. In addition, it reduces the prematurity rates and the length of stay of the newborn baby in the hospital environment. The only definitive treatment for

pre-eclampsia and eclampsia is childbirth; however the prevention and control of seizures are important in reducing maternal complications, including death.

There are many efforts to find an efficient method that reduces the incidence and severity of pre-eclampsia and some possible forms of prevention or benefits, but without evidence for its recommendation, it is the diet with protein or salt restriction, exercises, supplementation with zinc, magnesium, antioxidant vitamins which are C and E and fish oil or other sources of fatty acids, low molecular weight heparin and heparin and antihypertensive drugs.[4]

For Couto and Kaiser (2003)[19] the use of aspirin in low doses and calcium replacement in high-risk women as a treatment for effective prevention and calcium supplementation showing the reduction of blood pressure in pregnant women. Early detection, careful monitoring and treatment of pre-eclampsia are crucial in preventing mortality related to this disorder.

CONCLUSION

The frequency of impending eclampsia within a group of patients with severe preeclampsia is 39.5%.

The frequency of the use of sulfate in patients with severe preeclampsia presented in this study was 16%.

The preferred mode of delivery was cesarean with 68% and the fetal lethality rate was 5%.

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