HYPERTENSIVE SYNDROME IN PREGNANCY: ASSOCIATED RISK FACTORS

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ABSTRACT

Introduction: Gestational hypertensive syndrome has a prominence in the worldwide public health scenario, corresponding to one of the world's leading maternal deaths. Objective: To evaluate risk factors for hypertension in pregnancy. Methods: case control study conducted in 292 pregnant women who underwent cesarean sections from January 2018 to December 2018. Results: The maternal profile was of multiparous pregnant women aged 19-35 years, who underwent prenatal care with a greater number of women, 7 consultations reaching gestational age greater than 37 weeks. Maternal risk factors for hypertensive disease in pregnancy were nulliparity, gestational age less than 37 weeks. Fetal profile: female,>2500 kg, apgar of 1 °>7, apgar of 5 °> 7 and whose destination was joint accommodation. Fetal risk factors: weight> 2500Kg and apgar 1 ° <7. Conclusion: The risk factors for hypertension presented in these studies after multivariate analysis were nulliparity and gestational age <37 weeks for pregnant women and weight> 2500Kg and apgar 1 ° <7 for newborns. The Maternal profile traced was of multiparous pregnant women between 19-35 years old, who had prenatal care with consultations >7, gestational age >37 weeks with single fetuses. Already the neonatal profile was female babies, >2500 kg, apgar 1 ° >7, apgar 5 ° >7 and whose destination was the joint housing.

KEYWORDS: HYPERTENSION. GESTATION. RISK FACTOR.

INTRODUCTION

Pregnancy is a physiological phase that occurs in the life of most women, but in some cases health problems may occur. Gestational hypertension represents a significant importance for the multidisciplinary team, as it addresses one of the most common clinical complications during pregnancy, with higher risk of maternal and fetal mortality[1].

It is known that arterial hypertension is an important factor that can cause maternal and fetal death. Approximately 3% of women have chronic arterial hypertension and 10% of these interfere with the pregnancy[2].

Hypertension in pregnancy is called gestational hypertensive syndrome characterized at levels equal to or greater than 140 mmHg for systolic pressure and 90 mmHg for diastolic pressure. Gestational hypertensive syndrome is classified into chronic hypertension, chronic arterial hypertension, pre-eclampsia and eclampsia[3].

It is defined as the presence of transient arterial hypertension during pregnancy, with inactivity of proteinuria and normalization of blood pressure after the twelfth week of pregnancy, being correlated with recurrence in future pregnancies of these women and with an increased risk in the development of heart diseases.

Gestational hypertension is more conducive to patients with some existing pathological or physiological factors, such as kidney disease, diabetes, multiple pregnancy, obesity, primacy, women over the age of 30, family history with a trail of the disease and black women[4].

There are many problems associated with hypertension in pregnancy; some are caused directly by the clinical situation itself or, at other times, by the result of inadequate therapeutic approaches. For pregnant women, the main complications are: hypertensive encephalopathy, heart failure, severe impairment of renal function, retinal hemorrhage, diseases related to blood clotting and the association with preeclampsia. The fetus is at greater risk of restricted intrauterine growth, premature detachment of the normally inserted placenta, intrauterine suffering and death. The incidence of low birth weight and premature newborns is also greater. All of these incidents end up raising an emergency cesarean section[5].

The objective of this study is to evaluate the risk factors for hypertension during pregnancy and to correlate its behavior in cases in which a cesarean section is performed in the emergency room.

METHODS

A case-control study was carried out by analyzing data from the registration of patients in the operating room,

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performed on women undergoing cesarean sections from January 2018 to December 2018 at the Hospital and maternity Dona Íris, located in Goiânia -GO.

133 patients with hypertension who needed urgent cesarean section and 159 patients who underwent cesarean section with previous indication were analyzed, totaling 292 pregnant women.

The data was typed and manipulated in Excel, for later data treatment using the Windows Statistical Package for Social Science (SPSS) program (version 21.0).

Variables were presented in absolute and percentage values.

The logistic regression analysis was used for the univariate analysis in order to identify the possible risk factors for SHDP. Once identified considering the risk factors, a multivariate analysis was performed to confirm the risk factors.

In the Multivariate analysis, a 95% confidence level was considered, that is, p <0.05 was considered significant.

The ethical aspects were based on Resolution no. 466/2012 and the rights of participants assured. This was approved by the Ethics Committee indicated by Plataforma Brasil. CAEE: 18187819.6.0000.8058.

RESULTS

The study was carried out in women who underwent cesarean section from January 2018 to December 2018. 133 patients with hypertension who needed urgent cesarean section and 159 patients who underwent cesarean section with previous indication were analyzed, totaling 292 pregnant women.

Variable	SHDP (n/%)	Total	OR IC95%	p	OR[A]IC 95%	p
Age						
<18	9/69,2	13				
19-35	93/42,3	220				
>36	30/52,6	57	1,06(0,65-1,74)	0,806	-	-
Parity						
NULLIPAROUS	46/85,2	54	10,02(4,52-22,24)	< 0,001	8,41 (3,63-19,53)	< 0,001
MULTIPAROUS	86/36,4	236				
Prenatal						
YES	131/45,8	286	2,53(0,26-24,67)	0,423	-	-
NO	1/25,0	4				
Number of consultations						
<6	60/44,8	134				
>7	72/46,2	156	1,06(0,66-1,68)	0,814	-	-
Gestational Age						
<37	36/78,3	46	5,55(2,6-11,70)	< 0,001	3,66 (1,55 – 8,67)	< 0,001
>37	96/39,3	244				
Number of Fetus						
Single	130/45,3	287				
Twin	2/66,7	3	2,41(0,22-26,94)	0,474	-	-

[A] Adjusted (multivariate analysis).

Table 1 - Distribution of risk factors for SHDP in pregnant women undergoing cesarean sections at Hospital and Maternidade Dona Íris, Goiânia, 2019.

Variable	SHDP (n/%)	Total	OR IC95%	p	OR[A]IC 95%	p
Sex						
Female	69/44,2	156				
Male	63/47,0	134	1,12(0,70-1,78)	0,635	-	-
Weight						
>2500	99/39,6	250				
<2500	33/82,5	40	7,19(3,06-16,89)	< 0,001	3,72 (1,31-10,58)	0,014
Apgar 1						
<7	41/71,9	57	3,99(2,12-7,54)	< 0,001	3,72 (1,73 – 7,99)	0,001
>7	91/39,1	233				
Apgar 2						
<7	5/55,6	9	1,52(0,40-5,77)	0,542	-	-
>7	127/45,2	281				
Destination of the NB						
Alcon	113/42,8	264				
Care room/ICU/Death	19/73,1	26	3,6(1,47-8,92)	0,005	0,55 (0,16 – 1,89)	0,345

[A] Adjusted (multivariate analysis).

Table 2 - Distribution of risk factors related to neonatal conditions at birth, children of pregnant women undergoing cesarean sections at Dona Íris Hospital and Maternity, Goiânia, 2019.

DISCUSION

Hypertensive Specific Pregnancy Disease (SHDP) is a major cause of maternal mortality. Arterial hypertension that begins and ends in pregnancy has not yet been fully studied. Costa et al., (2003)[6] believes that its origin is not yet known, despite so many existing studies seeking to unravel this mystery. It is known that there are some defined risk factors, such as the first delivery known as nulliparity. Another risk factor is maternal age; however, some studies deny these factors and reveal that the extremes of the procreation period increase the risks of hypertensive syndromes. Guerreiro et al., (2015) when investigating the prevalence of maternal mortality resulting from SHDP in women hospitalized in a maternity hospital in the state of Pará, in the period from 2009 to 2012, found a profile of pregnant women between 20 and 29 years old (48.5 %), incomplete primary level (39.4%), had stable unions (48.5%), were mulatto (60.6%), housewives (39.4%), death occurred in the puerperium (81.8 %) and also relates SHDP to nulliparity.

Gonçalves et al. (2005)[7], who evaluated 604 medical records of hospitalized women and identified 22, in which the medical diagnosis was SHDP, 45.45% of them were adolescents and 40.90% nulliparous. In 86.36% the pathology occurred after the 20th week of gestation and the main complications that were identified were eclampsia, hypertensive crisis, intrauterine fetal death, neonatal death, chronic fetal distress and prematurity.

The profile found in this study was of pregnant women between 19-35 years old, multiparous, who underwent prenatal care with a greater number of 7 consultations and who reached a gestational age greater than 37 weeks with single fetuses.

These studies corroborate the research that traced nulliparity and gestational age under 37 weeks as maternal risk factors for hypertensive disease.

For Moura et al., (2010)[8] other predominant risk factors are: low education, low family income, personal and family history of chronic hypertension, hypercaloric, hypoproteic and hypersodium diet.

Assis et al., (2008)[3] conducted a study carried out at the Hospital das Clínicas of the Federal University of Goiás (HC-UFG), in 2005. It demonstrated that, among the 890 deliveries at the Maternity Hospital of HC-UFG,129 pregnant women were diagnosed with Syndrome Hypertensive in Pregnancy with obesity being a risk factor for pre-eclampsia. Age over 30 years was a protective factor for pre-eclampsia.

Normally women present edema during pregnancy and for Páscoa et al., (2012)[9] this isolated event should not be considered as a diagnosis of pre-eclampsia, it is known that edema is an inherent consequence of pregnancy.

For Amaral e Peraçoli (2011)10 the assistance should be focused on preventing the disease from getting worse and thus reducing maternal death.

The fetal profile of this study was of female newborns, weighing >2.5 kg, apgar 1 >7 and 5 >7 and who were referred to joint accommodation. The fetal risk factors of mothers with SHDP were newborns weighing less than 2.5 kg and having an apgar of less than [7]. Ferrão et al., (2006)[11] reviewed 200 medical records of pregnant women with hypertensive syndrome during pregnancy and found, as fetal repercussions in this group, lower weight of newborns and lower Apgar score when compared to the control group.

However, Chaim et al., (2008)[1], when analyzing studies on newborns, 93.4% were live births, 81% had a weight > 2,500g, 10.6% were premature, 68.1% suitable for gestational age, Apgar 1 and 5 minutes > 7 in 84.0% and 99.2%, respectively.

Araújo et al., (2017)[12] present as risk factors for SHG overweight (n = 1408, 75.4%), first pregnancy (n = 827, 44.3%) and multiparity (n = 686, 36.7%). Regarding the state of the fetus, 30.9% (n = 576) were premature.

Hypertensive syndromes during pregnancy for Oliveira et al., (2006)[13] increase the risk of unfavorable perinatal outcome (SGA, low Apgar in the 1st and 5th minutes, neonatal infection, MAS, prematurity and RDS). Among gestational hypertensive syndromes, special attention should be paid to preeclampsia or specific hypertensive pregnancy disease that occurs as an isolated form or associated with chronic arterial hypertension, as they are linked to the worst maternal and perinatal outcomes. Moura et al., (2011)[8] believes adequate prenatal control with strict monitoring of the pregnant woman is the only way to reduce maternal and perinatal mortality. The use of an image resource such as Doppler velocimetry allows the examiner to diagnose placental insufficiency and to assess maternal-fetal circulatory conditions in a safe and non-invasive manner.

CONCLUSION

The maternal profile traced was pregnant women between 19-35 years old, multiparous, who had prenatal care with a number of consultations >7, gestational age >37 weeks with single fetuses. The neonatal profile, on the other hand, was of female babies, > 2.5 kg, apgar 1 > 7, apgar 5 > 7 and who were referred to joint accommodation.

The risk factors for hypertension presented in this study after multivariate analysis were nulliparity and gestational age <37 weeks for pregnant women.

The risk factors for the newborn were weight > 2.5 kg and apgar 1 < 7 for neonates.

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