

Maternal and perinatal outcomes in women with chronic hypertension and risk factors of superimposed preeclampsia

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Objective

To evaluate obstetric outcomes among women with chronic hypertension, with and without superimposed preeclampsia, and identify risk factors of superimposed preeclampsia.

Methods

This retrospective study included 198 Caucasian women with chronic hypertension (out of 14. 424 singleton pregnancies) who delivered in a tertiary care center. Clinical findings, maternal and perinatal outcomes were compared between ones with and without superimposed preeclampsia.

Results

Superimposed preeclampsia developed in 49. 4% (98/198) of women. The mean gestational age at delivery and birth weight were significantly lower in women with superimposed preeclampsia ($p < 0. 05$). Incidence of preterm delivery was higher in women with superimposed preeclampsia. Although there weren't significant differences in incidences of intrauterine growth restriction, stillbirths, early and late neonatal deaths ($p > 0. 05$), maternal near miss cases were significantly higher in women with superimposed preeclampsia ($p < 0. 05$). Only mean arterial blood pressure [OR: 1. 070 (1. 008–1. 135)] was independently associated with the occurrence of superimposed preeclampsia ($p: 0. 027$).

Conclusion

Adverse maternal outcome was more likely to occur in women with superimposed preeclampsia. Chronic hypertension was associated with adverse perinatal outcome, regardless of superimposed preeclampsia.

Table 1: Factors associated with development of superimposed preeclampsia by univariate analysis.

	without superimposed preeclampsia (total n: 100), n (%)	with superimposed preeclampsia (total n: 98), n (%)
Maternal age	32.4 ± 6.2	32.09 ± 6.6
Nulliparity	47 (47)	35 (35.7)
History of term delivery	48 (48)	56 (57.1)
History of preterm delivery	8 (8)	12 (12.2)
History of immature delivery	5 (5)	3 (3.1)
History of in utero exitus	5 (5)	8 (8.2)
History of abortion	21 (21)	23 (23.5)
<12 wks	19 (19)	21 (21.4)
>12 wks	4 (4)	2 (2)
History of criminal abortion	13 (13)	19 (19.4)
History of preeclampsia/eclampsia	4 (4)	9 (9.2)
Smoking	12 (12)	5 (5.1)
Systemic disease		
Diabetes mellitus*	22 (22)	11 (11.2)
Renal disease	8 (8)	11 (11.2)
Romatologic disease	1 (1)	3 (3.1)
Antihypertensive therapy	37 (37)	33 (33.7)
Antenatal care	89 (89)	81 (82.7)
Gender of the fetus*		
Male	44 (44)	60 (61.2)
Female	56 (56)	38 (38.8)
Highest systolic pressure*	158.6 ± 28.8	172 ± 27.7
Highest diastolic pressure*	99 ± 16.6	106.5 ± 16
Mean arterial pressure*	119 ± 19.9	128.4 ± 19

* $p < 0.05$

Table 2: Obstetric outcomes in women with chronic hypertension according to the occurrence of superimposed preeclampsia.

	without superimposed preeclampsia (total n: 100), n (%)	with superimposed preeclampsia (total n: 98), n (%)
Gestational age at delivery (week)*	34.3 ± 4.2	33.3 ± 4.2
Birth before the 34 th week of gestation*	30 (30)	46 (46.9)
Birth before the 37 th week of gestation*	44 (44)	70 (71.4)
Birth weight (g)*	2139 ± 1026	1862 ± 935
Stillbirth	8 (8)	13 (13.3)
Early neonatal death	7 (7)	8 (8.2)
Perinatal mortality	13 (13.3)	20 (20.4)
Late neonatal death	1 (1)	1 (1)
Neonatal mortality	8 (8)	9 (9.2)
IUGR	28 (28)	34 (34.7)
Maternal mortality and MNM*	3 (3)	25 (25.5)
Eclampsia	0 (0)	1 (1)
HELLP syndrome*	0 (0)	16 (16.3)
Severe symptoms*	24 (24)	71 (72.4)
Cesarian section rate	70 (70)	61 (61.2)

* $p < 0.05$