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462 Postpartum antihypertensive treatment in preeclamptic patients – correlation to clinical and placental findings



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OBJECTIVE: We aimed to examine if clinical and placental findings in preeclampsia (PET) can predict the need for anti-hypertensive treatment in the postpartum.

STUDY DESIGN: This was a retrospective cohort of live singleton deliveries at 24.0 – 42.0 weeks gestation complicated by PET. Included were deliveries, we excluded patients with chronic hypertension and anti-hypertensive treatment during pregnancy. Obstetric outcomes and placental pathology reports were compared between patients who required antihypertensive treatment during the postpartum period (treatment group) and patients who did not (no treatment group).

RESULTS: A total of 276 deliveries with a diagnosis of PET were analyzed – 90 in the treatment group and 186 in the no treatment group. There were no differences between the groups regarding demographics and previous PET. Significantly more patient in the treatment group delivered prematurely - 61.1% vs. 34.9%, $p < 0.001$. The rate of severe preeclampsia was significantly higher in the treatment group - 91.1% vs 56.9%, respectively, $p < 0.001$, and a higher rate of cesarean delivery was also noted in this group - 84.4% vs. 63.9%, $p < 0.001$. On placental examination, a higher rate of marginal and retroplacental hematomas was noted in the treatment group ($p = 0.02$), as was a trend for more maternal vascular lesions ($p = 0.05$). In a logistic regression analysis, gestational age (OR 0.87, 95% CI 0.80-0.94, $p = 0.001$) and severe PET (OR 7.26, 95% CI 3.20-16.47, $p < 0.001$) were found independently correlated to post-partum treatment. In separate regression analysis among patients treated while hospitalized, nulliparity (OR 0.49, 95%CI 0.25-0.98, $p = 0.04$) was also found significantly correlated with treatment at discharge.

CONCLUSION: Antihypertensive treatment in the postpartum correlates to PET severity and gestational age, while nulliparous patients are also likely to require treatment after discharge

Logistic regression model for need for hypertensive treatment at discharge, among patients treated with anti-hypertensives postpartum

	OR	95% C.I		P
		Lower	Upper	
Maternal age, years	1.02	0.98	1.07	0.22
Nulliparity	0.49	0.25	0.98	0.04
Gestational age, weeks	0.84	0.77	0.92	<0.001
Severe PET	5.77	2.31	14.39	<0.001
Previous preeclampsia	1.09	0.41	2.87	0.85
Marginal / retroplacental hematoma (M0)	0.73	0.35	1.50	0.40
Vascular lesions (M1)	0.82	0.42	1.57	0.55

OR: odds ratio. C.I. confidence interval

463 Midwife annual delivery workload and maternal and neonatal adverse outcomes, is there an association?



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OBJECTIVE: To evaluate the association between certified nurse midwives' (CNM) annual delivery workload and short-term, adverse maternal and neonatal outcomes occurring in vaginal deliveries.

STUDY DESIGN: This retrospective cohort study was performed in a single tertiary academic center between 2006 and 2019. All single, live vertex term vaginal deliveries were included and categorized into two groups based on the CNM median annual volume of deliveries during the study duration. The "high-volume" and "low-volume" groups included deliveries above and below the median annual delivery volume, respectively as a dichotomous variable. Further analyses were performed for the annual volume by deciles. Short term maternal and neonatal outcomes were compared between groups and between deciles.

RESULTS: During the study period 140,856 deliveries met the study criteria. The median annual deliveries of a single CNM was 152 [114-195]. Maternal and labor characteristics were comparable between the groups. Maternal outcomes were not significantly associated with the CNM's annual workload. However, neonates delivered by CNMs with "low" annual volume had higher a higher rate of neonatal jaundice aOR 1.07, 95% CI [1.00-1.14] and mechanical ventilation aOR 1.32, 95% CI [1.05-1.66].

CONCLUSION: Adverse perinatal outcomes are only mildly affected by CNM's annual volume of CNMs after controlling for the CNM, parturient and neonate's characteristics.

464 Maternal fear of COVID-19 and prevalence of postnatal depression symptoms: risk and protective factors



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OBJECTIVE: To evaluate the relations between fear of COVID-19 and postnatal depression symptoms.

STUDY DESIGN: A multicenter prospective cohort study of women who delivered during COVID-19 pandemic 03-05.2020. Participants were virtually approached after delivery and asked to complete a comprehensive online questionnaires that included demographic, socioeconomic and obstetric data, as well as postnatal mental health status questionnaires. Data were verified with each center perinatal database. Fear of COVID-19 was evaluated using the validated Fear

of COVID-19 Scale. Postnatal depression was evaluated using the EPDS questionnaire as categorical (cutoff ≥ 10) and as a continuous scale. Pre-existing maternal disability was defined as any prior physiological or psychological chronic health condition. Composite stress during pregnancy/birth included complications such as gestational diabetes, hypertensive disorder, urgent cesarean delivery. Regression analysis and ROC statistics were utilized to evaluate associations and control for confounders.

RESULTS: Overall, 421 women completed the questionnaires. Of them, 99(23.5%) had a high EPDS score. Table 1,2 presents demographic, obstetric, socioeconomic and other data stratified by a high EPDS score. Fear of COVID-19 was positively correlated with postnatal depression symptoms($r=0.35, p=0.000$), ROC-AUC 0.67, 95% CI 0.61-0.74. Following adjustment to confounders (maternal age, nulliparity, ethnicity, marital status, and questionnaires to evaluate financial difficulties, maternal disability, accessibility to medical services, fear of medical protective equipment, and stress during pregnancy/birth), the most important factor that correlated with a high EPDS score was prior maternal disability (aOR 2.5, 95% CI 1.1-5.6) followed by fear of COVID-19(aOR 1.1 95% CI 1.1-1.5). The only protective factor was high accessibility to medical services(aOR 0.6 95% CI 0.5-0.8).

CONCLUSION: In the era of COVID-19, maternal disability and fear of COVID-19 are positively associated with a high EPDS score. High medical accessibility was found as a protective factor for postnatal depression.

Table 1: Descriptive statistics

Characteristic	EPDS <10 N=322	EPDS ≥ 10 N=99	P value
Maternal age, years	31.8 \pm 5.2	30.4 \pm 5.3	0.024
Nulliparity	237 (73.6%)	65 (65.7%)	0.125
Chronic hypertension	8(2.5%)	8(2%)	0.57
Pregestational diabetes	6(1.9%)	0(0)	0.34
Ethnicity:			
Jews	245 (76.4%)	83 (83.8%)	
Arabic	76 (23.6%)	16 (16.2%)	0.128
Marital Status			
Married	292(90.7%)	88(88.9%)	
In relationship	18(5.6%)	7(7.1%)	
Separated/single	12(3.7%)	4(4)	0.850
Religious level (scale 0-4; 0-secular to 4- very religious)	1.8 \pm 0.8	1.8 \pm 0.8	0.426
Education:			
Elementary	5(1.6%)	1(1%)	
High school	127(39.4%)	37(37.4%)	
1st degree	135(41.9%)	40(40.4%)	
2nd degree	49(15.2%)	19(19.2%)	
3rd degree	6(1.9%)	2(2%)	0.905
Financial difficulties due to COVID19 pandemic	112 (34.8%)	53 (53.5%)	0.001
Maternal disability	20 (6.2%)	14 (14.1%)	0.011
Accessibility to medical services (scale 0-5; 0-none to 5- always available)	4.5 \pm 0.79	3.9 \pm 1	0.000
Fear from PPE (scale 0-5; 0-not at all to 5- very difficult)	1.79 \pm 1	2.07 \pm 1.2	0.078
Exposure to COVID19 events (nu of exposures)	3.5 \pm 1.8	3.8 \pm 1.9	0.187
EPDS (scale 0-30)	3.7 \pm 2.9	14.3 \pm 4.1	0.000
Fear of COVID19(scale 7-35)	16.9 \pm 5.2	20.7 \pm 6.5	0.000

Table 2: Birth outcome

Characteristic	EPDS <10 N=322	EPDS ≥ 10 N=99	P value
Weeks at delivery	39.4 \pm 1.1	39.4 \pm 1.2	0.668
Birth weight, grams	3282.4 \pm 404.5	3233.8 \pm 416.0	0.328
Gestational diabetes	22(6.8%)	3(3%)	0.358
Hypertensive disorder	21(6.5%)	3(3%)	0.544
Mode of delivery:			
Vaginal delivery	235(73.0%)	74(74.7%)	
Vacuum delivery	25(7.8%)	8(8.1%)	
Elective cesarean	29(9.0%)	9(9.1%)	
Urgent cesarean	33(10.2%)	8(8.1%)	0.939
Maternal ICU admission	4(1.2%)	2(2.0%)	0.568
Neonatal ICU admission	13(4.0%)	6(6.1%)	0.396
OASIS	1(0.3%)	0(0.0%)	0.579
Blood transfusion	7(2.2%)	2(2.0%)	0.926
Stress pregnancy/delivery	83(25.8%)	20(20.2%)	0.287
Maternal admission, days	3.4 \pm 1.1	3.2 \pm 0.8	0.287
Neonatal admission, days	3.2 \pm 1.4	3.8 \pm 9.1	0.951
Breastfeeding	238(77.3%)	77(81.1%)	0.436
Delivery to questionnaire interval, weeks	10.8 \pm 1.9	11.3 \pm 1.6	0.056

ICU-intensive care unit; OASIS- Obstetric anal sphincter injury; stress during pregnancy including any of gestational diabetes, hypertensive disorder, cerclage, fetal growth restriction; stress during delivery including any of OASIS, urgent cesarean, need for maternal or neonatal ICU admission or blood transfusion.

465 Histologic chorioamnionitis in pregnancies complicated by preeclampsia and the effect on neonatal outcomes



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OBJECTIVE: Inflammation plays a major role in the development of preeclampsia. Histological chorioamnionitis (HC) is a common placental finding, that can represent acute or chronic inflammation and can influence neonatal outcomes. We aimed to examine the added effect of HC on neonatal outcomes in pregnancies complicated by preeclampsia.

STUDY DESIGN: The computerized medical files of all pregnancies with the diagnosis of preeclampsia at 24-42 weeks of gestation between 2008 and 2019 were reviewed. Cases with overt clinical chorioamnionitis were excluded. Placental lesions were classified according to "Amsterdam" criteria. The composite adverse neonatal outcome included ≥ 1 of the following: Apgar at 5 min < 7 , respiratory support, respiratory distress syndrome (RDS), neurological morbidity, NEC, sepsis, or death. The maternal and neonatal outcomes were compared between cases of preeclampsia with and without HC. Multivariable regression analysis was performed to identify independent associations with adverse neonatal outcomes.

RESULTS: As compared to the preeclampsia without HC group (n=517), the preeclampsia with HC group (n=55) was characterized by a more advanced gestational age (GA) at delivery (37.7 \pm 3.4 vs. 36.13.3 weeks, $p<0.001$), and a lower rate of a history of previous preeclampsia ($p=0.04$). Neonates in the preeclampsia with HC group had a higher rate of composite adverse neonatal outcome ($p<0.001$) despite a higher mean birth weight ($p=0.005$)- Table 1. By multivariate analysis, HC was found to be independently associated with adverse neonatal-outcome (aOR 1.33, 95% CI 1.11-3.09)- Table 2. In placental pathology preeclampsia without HC was