

Maternal and perinatal outcomes in early onset and late onset preeclampsia

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Objective

To compare clinical findings and identify differences in risk factors between early-onset and late-onset preeclampsia.

Methods

This retrospective study included 516 women with singleton pregnancies and preeclampsia (none of them had superimposed preeclampsia on chronic hypertension) who delivered in a tertiary care center. Clinical findings, maternal and perinatal outcomes were compared between early (< 34 weeks' gestation) and late (\geq 34 weeks' gestation) onset of the disease.

Results

The mean maternal age was 28.08 ± 6.03 , mean gestational age at delivery was 33.8 ± 3.9 weeks, mean birth weight was 1967 ± 892 g. Ratios of antenatal, perinatal, neonatal mortality were, respectively as follows: 13.6%, 19%, 5.9%. Maternal mortality ratio and maternal near-miss ratio were 0.96% and 29.06%, respectively. Ratio of cases where the mother's life at risk (maternal mortality + maternal near-miss) was 30%. Incidences of nulliparity, previous history of premature and immature births, history of intrauterine deaths between 20-28 weeks, history of intrauterine deaths between 28-37 weeks, history of first trimester abortions were significantly higher in women with early-onset compared to late-onset preeclampsia ($p < 0.05$). Incidences of history of disease other than chronic hypertension (especially diabetes mellitus), previous history of term births were significantly higher in women with late-onset disease ($p < 0.05$). The mean gestational age at delivery and birth weight were significantly lower in early-onset disease ($p < 0.05$). Incidences of stillbirths, early and late neonatal deaths, cases where the mother's life at risk were significantly higher in women with early-onset disease ($p < 0.05$). There were no significant differences between the incidences of stillbirth, early neonatal death and neonatal death rates of EO-PE with or without severe symptoms. This was also true for LO-PE with or without severe symptoms. However, in cases where the mother's life at risk there was a significant difference between groups. Maternal deaths and complications were more common in groups with severe symptoms whether early or late onset. In multivariate analysis the most relevant variables that contribute to cases where the mother's life at risk, in descending order, were as follows: HELLP syndrome, eclampsia, severe symptoms. The most relevant variables that contribute to perinatal deaths, in descending order, were as follows: early or late onset of disease, antenatal care.

Conclusion

Early-onset preeclampsia is associated with higher incidence of perinatal, neonatal and maternal deaths and maternal near-miss cases.

Table 1: Clinical characteristics and obstetric outcomes of women with EO-PE and LO-PE.

	EO-PE (n: 235)	LO-PE (n: 281)
Nulliparity*	141 (60)	145 (51.6)
History of term delivery*	74 (31.5)	129 (45.9)
History of preterm delivery*	21 (8.9)	10 (3.6)
History of immature delivery*	12 (5.1)	3 (1.1)
History of in utero exitus (28-37 gw)*	12 (5.1)	5 (1.8)
History of in utero exitus (20-28 gw)*	8 (3.4)	2 (0.7)
History of abortion before the 12 th gw*	47 (20)	36 (12.8)
Systemic disease*	25 (10.6)	52 (18.5)
Diabetes mellitus*	4 (1.7)	15 (5.3)
Maternal mortality and maternal near-miss*	91 (38.7)	63 (22.4)
Eclampsia*	49 (20.9)	24 (8.5)
HELLP syndrome*	45 (19.1)	29 (10.3)
Severe symptoms*	191 (81.3)	205 (73)
Gestational age at delivery (week)*	30.3 ± 2.4	36.8 ± 1.9
Birth weight (g)*	1280 ± 459	2541 ± 748
Stillbirth*	52 (22.1)	18 (6.4)
Early neonatal death*	21 (9.2)	6 (2.1)
Perinatal mortality*	73 (31.9)	24 (8.5)
Late neonatal death*	3 (1.3)	-
Neonatal mortality*	24 (10.5)	6 (2.1)

* : $p < 0.05$

Table 2: Obstetric outcomes of women with EO-PE and LO-PE according to the severity of symptoms.

	EO-PE without severe symptoms (n: 44)	EO-PE with severe symptoms (n: 191)	LO-PE without severe symptoms (n: 76)	LO-PE with severe symptoms (n: 205)
Maternal mortality and maternal near-miss*	2 (4.5)	89 (46.6)	1 (1.3)	62 (30.2)
Eclampsia*	-	49 (25.7)	-	24 (11.7)
HELLP syndrome*	-	45 (23.6)	-	29 (14.1)
Birth Weight	1251 ± 444	1287 ± 460	2525 ± 790	2559 ± 741
SGA	18 (40.0)	77 (40.3)	35 (46.1)	71 (34.6)
Stillbirth	12 (27.3)	40 (20.9)	7 (9.2)	11 (5.4)
Early neonatal mortality	1 (2.3)	20 (10.8)	-	6 (2.9)
Perinatal mortality	13 (30.2)	60 (32.3)	7 (9.2)	17 (8.3)
Late neonatal mortality	-	3 (1.6)	-	-
Neonatal mortality	1 (2.3)	23 (12.4)	-	6 (2.9)
Gestational week at birth	30.8 ± 1.8	30.2 ± 2.5	36.9 ± 2	36.8 ± 2

* : $p < 0.05$