Clinical and laboratory findings in women with preeclampsia in the perinatal period

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Objective
The study was designed to evaluate the differences in clinical and laboratory findings between two groups of patients with early - onset preeclampsia versus late - onset preeclampsia.

Methods
This was a retrospective cohort study, conducted in a group of 231 women with preeclampsia, admitted to the Department of Obstetrics and Perinatology, University Hospital in Cracow, during the period 2011 - 2015. Blood samples were taken from patients to detect the serum concentration of morphological and biochemical parameters. Ultrasound was used to evaluate the development of the fetus. Data including mode of delivery, pregnancy complications and neonatal outcomes were statistically analyzed. A p - value < 0.05 was considered as significant.

Results
Preeclampsia was diagnosed in 231 patients out of 13,716 patients hospitalized in our unit over the 5 year period. In this group, 120 women developed early - onset preeclampsia (group I) and 111 late - onset preeclampsia (group II). Multiple pregnancies occurred in 17 women, of which 6 belonged to group I and 11 in group II. The mean duration of pregnancy was 30.68 +/- 2.23 weeks versus 36.6 +/- 1.37 weeks in the early - and late - onset group, respectively. The early - onset group was observed to have statistically significantly higher levels of proteinuria (4.21 g vs 2.32 g, p = 0.007), daily protein loss (6.35 g vs 3.82g; p = 0.008); creatinine blood concentration (72.3 vs 63 IU; p = 0.001). The hospitalization time was also longer in this group comparing to late - onset group (6.8 vs. 5.9 days; p = 0.021). The higher maximum systolic blood pressure (177 mHg vs 170mHg; p = 0.005) and higher maximum diastolic blood pressure (109mmHg vs 105mmHg; p = 0.026) was detected in group I. Furthermore in the I group, the placental abruption (14.9% vs 3.0%; p = 0.004), the diagnosis of genitourinary infection (26.3% vs 14.0% p = 0.028), the incidence of threatening fetal asphyxia (67.5% vs. 30.3%; p <0.001) and the need for albumin transfusion (19.3% vs 8.0%; p = 0.019), occurred more often comparing to the II group. Study groups also differed in the prevalence of cerebroplacental ratio below 5th percentile (63.1% vs. 36.4%; p = 0.001) and MCA abnormal flow rate as PI <5th percentile (41.9% vs. 12.9%, p < 0.001) for the group I versus group II correspondingly. Moreover severe intrauterine growth restriction, understood as estimated fetal weight lower than 3rd centile, appeared more often in early - onset group (57.5%), versus late - onset group (36%) with late-onset group (p = 0.002). The studied groups stood apart significantly in Apgar score in 1st, 3rd and 5th minute (p < 0.001).

Conclusion
Early onset - preeclampsia is associated with higher risk of perinatal adverse outcomes.