Maternal, fetal and neonatal outcome among different types of hypertensive disorders associating pregnancy needing intensive care management

ABSTRACT

Objective: To assess the relationship between maternal, fetal, and neonatal outcomes anddifferentforms of hypertensive disorders associating pregnancy in women needed intensive care
units (ICUs) admission.Methods: A prospective case control study was conducted on 1238 women admitted to hypertensiveICU at three university hospitals. They were classified into four groups. Group I included472 women with severe preeclampsia (PE), Group II included 243 women with eclampsia (E),Group III included 396 women diagnosed with E associated with HELLP syndrome, and Group IVincluded 127 women diagnosed as HELLP syndrome. All women received magnesium sulfate toprevent and/or control convulsions and nifedipine to control their blood pressure. Primaryoutcome parameter was maternal mortality. Other outcomes included maternal morbidities,fetal, and neonatal outcomes.Results: There was a significant difference among the study groups regarding the need forblood transfusion (58.1%, 70%, 84.3%, and 42.5% respectively, $p<.001$), number of transferredunits (2.4 ± 1, 2.9 ± 0.9, 3.4 ± 1.1, and 3.5 ± 0.8 respectively, $p<.001$), placental abruption (23.3%,16.5%, 30.3%, and 19.7% respectively, $p<.001$), pulmonary edema (14.8%, 22.6%, 19.9%, and34.6% respectively, $p<.001$), multiple complications (12.5%, 12.3%, 19.9%, and 26% respectively,$p<.001$), and maternal mortality (1.9%, 4.1%, 6.1%, and 5.5% respectively, $p<.001$).Regarding fetal and neonatal outcomes, there was a significant difference among the fourgroups regarding Apgar score at 1 and 5 min, neonatal birth weight, neonatal intensive careunit (NICU) admission, NICU admission days, intrauterine growth restriction, perinatal death,respiratory distress syndrome, intraventricular hemorrhage, sepsis, and the need for mechanicalventilation ($p<.001$). Higher rate of vaginal delivery was reported in women with HELLP(40.9%) and severe PE (39.8%) and higher rates of performing cesarean section (CS) in womenwith eclampsia (77.8%). Maternal mortality is significantly related to delivery with CS, youngermaternal age with lower parity, and the presence of placental abruption or pulmonary edema.For Groups III and IV, which included HELLP cases, there are significant differences betweenboth groups as regards HELLP classes according to Mississippi classification, also significantdifferences were seen between both groups as regards, maternal mortality, abruptio placenta,pulmonary edema, multiple organ damage, NICU admission, perinatal deaths, and need formechanical ventilation.
Conclusion: Both maternal mortality and morbidity (placental abruption and need for blood transfusion) are significantly higher in women with HELLP syndrome worsens to become class 1 regardless of whether eclampsia is present or not.Synopsis: Maternal mortality and unfavorable outcome are significantly higher in women withHELLP syndrome whether it was associated with eclampsia or not.