BMI: new aspects of a classical risk factor for hypertensive disorders in pregnancy.

Abstract:

HDP (hypertensive diseases in pregnancy) are one of the leading causes of maternal and fetal mortality and morbidity. BMI (body mass index) is an established risk factor for pre-eclampsia, but its role in HELLP syndrome is unknown. We therefore investigated BMI as a risk factor in the development of HELLP syndrome. At the beginning of pregnancy, BMI was measured in 1067 women with a history of HDP and 1063 controls. Diagnoses of HDP were classified according to ISSHP (International Society for the Study of Hypertension in Pregnancy) and BMI according to WHO (World Health Organization) criteria. After verification of exclusion criteria and matching for confounders, 687 women with hypertensive diseases in pregnancy and 601 controls remained for statistical evaluation by chi(2) test and multiple logistic regressions. As a continuous variable, the increase in BMI was associated with an increase in the development of gestational hypertension (OR (odds ratio), 1.1 [95% CI (confidence interval) 1.06-1.19]) and pre-eclampsia (OR, 1.1 [95% CI, 1.05-1.14]), but not for HELLP syndrome. According to WHO definitions, overweight women (BMI> or =25 and or =30 kg/m(2)) had a 3.2-fold (95% CI, 1.7-5.9) risk of developing pre-eclampsia when compared with women of normal weight (BMI> or =15.5 and<25 kg/m(2)). Being overweight or having obesity had no effect on the risk of HELLP syndrome. As an increased
BMI is correlated with the risk of developing pre-eclampsia but not HELLP syndrome, both diseases have a different risk profile. This finding supports that underlying physiological mechanisms in pre-eclampsia vary from those in HELLP syndrome.