MATERNAL RISK FACTORS, PLACENTAL WEIGHT AND BIRTHWEIGHT IN WOMEN SUFFERING FROM DIFFERENT TYPES OF PREECLAMPSIA

[1]SADIA MUNIR, [2]DIANA WHITE, [3]HAILA SALIM

University of Calgary in Qatar, University of Calgary in Qatar, Women's Hospital, HMC, Qatar
E-mail: [1]munirs@ucalgary.edu.qa, [2]dlwhite@ucalgary.edu.qa, [3]hsalim@hmc.qa

Abstract - Preeclampsia is a pregnancy complication characterized by high blood pressure and proteinuria. Preeclampsia affects 2-15% of all pregnancies worldwide. Prevalence of preeclampsia greatly varies all over the world and is dependent on ethnicity of the population and geographic region. It is a major cause of maternal and perinatal morbidity and mortality. Although, there have been considerable advances in understanding, diagnosing, and managing preeclampsia in the past 10 years, several questions remain unanswered. There is very little known about the clear treatment path of this disorder. Preeclampsia is divided into two different types. Early onset preeclampsia develops before 34 weeks of gestation and late onset develops at or after 34 weeks of gestation. Different genetic and environmental factors, prognosis, heritability, biochemical and clinical features are associated with early and late onset preeclampsia. Abnormal placental development is considered the prevailing cause of preeclampsia. Several of the cardiovascular risk factors associated with preeclampsia such as high body mass index, diabetes and chronic hypertension also contribute to the placental pathology that causes both abnormal placental weight and preeclampsia. Preeclampsia puts both mother and baby at risk of several short term- and long term-health problems later in life. There is huge health service cost burden in the health care system associated with preeclampsia and its complications. To authors best knowledge, no published data on preeclampsia exist in Qatar. The purpose of this study is to compare maternal risk factors, placental weight and birth weight in both early onset and late onset preeclampsia in Qatar. This retrospective longitudinal cohort study was conducted using data from the hospital record of Women's Hospital, Hamad Medical Corporation (HMC), from May 2014-May 2016. Data collection tool, which was approved by HMC, was a researcher made extraction sheet that included information such as blood pressure during admission, socio demographic characteristics, delivery mode, and new born details. A total of 1929 patients' files were identified by the hospital information management when they apply codes of preeclampsia. Out of 1929 files, 878 had significant gestational hypertension without proteinuria, 365 had preeclampsia, 364 had severe preeclampsia, and 188 had preexisting hypertension with superimposed proteinuria. In this study 78% of the data was obtained by hospital electronic system (Cerner) and the remaining 22% was from patient's paper records. We have gone through detail data extraction from 560 files. We have statistically analyzed data and have compared maternal age, severity of hypertension, mode of delivery, diabetes, parity, gravida, BMI, placental weight and infant birth weight in two different disease types. We have identified significantly higher placental weight (mean=392grams) in women with late onset preeclampsia and lower placental weight (mean= 240grams) in women with early onset preeclampsia. Statistical significant difference was found in the mean BMI and body weight of women suffering from early-onset preeclampsia compared to those suffering from late-onset preeclampsia. Incidence of Caesarean section deliveries was higher in early-onset preeclampsia than late- onset preeclampsia. 32.10% of women who had early-onset preeclampsia underwent Caesarean section deliveries compared to the 12.40% Caesarean section deliveries in late-onset preeclampsia. In late-onset preeclampsia, hypertension was present in 78.60% of women. From those, 11.00% had severe hypertension and 10.30% had no hypertension. The significant correlations of BMI and hypertension with preeclampsia do indicate that further efforts in maintaining a healthy community is essential. Qatari women being the highest affected portion in our sample is alerting. Therefore, interests for further focused studies on demographics, genetics, and placental formation of this population would be beneficial.
The data from clinical findings of preeclampsia will contribute to increased knowledge about two different disease entities, their etiology and similarities/differences. This can help direct care to women in Qatar by aiding health care professionals in understanding the burden this disease can cause on not only the mothers, but the infant, families, society and on health care.

Index Terms - Birth weight, Placenta, Preeclampsia, Risk Factors