TJPRC: International Journal of Pharmacology and Physiology (TJPRC: IJPP)
ISSN(Print) : Applied; ISSN(Online) : 2455-2119
Vol. 2, Issue 1, Jun 2016, 1-14

TRANS STELLAR
•Journal Publications •Research Consultancy

THE ROLE OF SERUM CALCIUM AND ZINC IN PREGNANCY INDUCED HYPERTENSION

K. VIDHYA

Assistant Professor, Institute of Physiology, Madurai Medical College, Madurai, Tamil Nadu, India

ABSTRACT

Aim and Objective

Pregnancy induced hypertension or preeclampsia is triad of hypertension, proteinuria and edema occurring after 20 weeks of gestation in previously normotensive women. The aim of the study is to analyze and compare the concentration of serum calcium and zinc level in women with preeclampsia and in normal pregnant women.

Materials and Methods

This is a cross sectional case-control study involving 25 women with pre-eclampsia in case group and 25 normal pregnant women in control group. The inclusion criteria for case group were age group in between 20-40 yrs including both primi and second gravida in third trimester of pregnancy (>24 weeks of pregnancy). The blood pressure measured by sphygmomanometer in upper arm in sitting posture was ≥140/90mmHg in two different occasions taken 6 hours apart. The urine albumin was ≥1+ or in the mid stream random sample of urine. The controls group was formed by 25 age matched normal pregnant women either primi or second gravida in third trimester of pregnancy. The patients with medical complications such as Diabetes Mellitus, renal failure, chronic hypertension, heart failure or ischaemic heart disease, multiple pregnancies, pregnancy < 24 weeks of gestation, patients on magnesium sulphate and calcium lactate therapy were excluded from the study.

The Body Mass Index (BMI), serum calcium and zinc levels were compared between the case and control groups.

Results

The BMI was significantly higher in preeclamptic women when compared to normal pregnant women 28.71±4.70 versus 22.46±3.42 P<0.001. The serum calcium and zinc levels in preeclamptic women were significantly lower when compared to normal pregnant women 8.07±0.43 versus 8.96±0.59 P<0.001, 80.6±9.78 versus 93.28±9.44 P< 0.001 for cases and controls respectively.

Conclusions

Although the serum calcium and zinc deficiency cannot be pinpointed as the sole factors for the etiology of preeclampsia, they have a definite role in the development of preeclampsia.

KEYWORDS: Preeclampsia, Serum Calcium and Serum Zinc

Received: Mar 20, 2016; **Accepted:** Apr 05, 2016; **Published:** Apr 09, 2016; **Paper Id.:** TJPRC:IJPPJUN20161

Original Article