



EVALUATION OF TOTAL CHOLESTEROL & GLUCOSE LEVELS AMONG SUDANESE WOMEN WITH PREECLAMPSIA

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ABSTRACT

Background:- Preeclampsia is a serious problem for many as one in 12 women during pregnancy. It generally occurs after 20th week and is marked by increase blood pressure, serum cholesterol and protein in the urine. **Methodology:** The study group was composed of 36 pregnant women with preeclampsia, while control group was composed of 36 women with normal pregnancy, analyzed for total cholesterol, glucose by semi-automated chemistry analyzer (mindray BA. 88A). **Results:** The serum total cholesterol levels were higher in preeclampsia groups as compared to control group and serum glucose levels were normal in preeclampsia group, and control group. **Conclusion:** It can be concluded that a disturbance in total cholesterol level can play significant role in the pathogenesis of preeclampsia.

KEYWORDS: preeclampsia, total cholesterol, blood glucose.

INTRODUCTION

Preeclampsia is the most medical problem and serious disease affect pregnant women.^[1,2] Preeclampsia is a leading cause of premature birth.^[4,5] It must be watched closely as it can threaten the life of both the mother and the baby.^[3,4]

Preeclampsia characterized by increasing blood pressure, protein in urine and serum total cholesterol.^[6,5] Plasma cholesterol in the first trimester of pregnancy may predict the incidence and severity of preeclampsia.^[9,10] Hormonal defect during pregnancy may affect metabolism of cholesterol and glucose.^[7,8] Increase of blood glucose in pregnant women could indicate dangerous signs of which threat both women and the fetus.^[8,9]

MATERIALS AND METHODS

This is a case – control appear healthy, hospital base study conducted in Omdurman maternity hospital during the period from March 2016 – July 2016. The study was approved by Ministry of health Committee and all subjects informed consent. Inclusion criteria: the age up to 40 years gestational age \geq 20 weeks in normal pregnancy and preeclampsia, blood pressure higher 140/90, proteinuria (+, ++, +++) in preeclampsia.

Exclusion criteria: kidney disease, diabetes, essential hypertension and other causes increase the cholesterol. The study group was composed of 36 pregnant women with preeclampsia while the control group was composed

of 36 women with normal pregnancy. The data were collected by using a direct interviewing questionnaire. Medical information was collected from the patient with help of the physician. The questionnaire was used o collected data regarding number, age, blood pressure and proteinuria. Six ml from venous blood have been taken into containers lithium heparin and fluoride oxalate and placed at room temperature for one hour Although it has been studied extensively, it is specific etiology and patho physiology remains unknown.^[11,12]

Lipid metabolism change during pregnancy. Natural rising in plasma lipid seen in normal pregnancy, and this rising is under control, but in complicated there is possible defect in the mechanism of adjusting physiologic hyper lipidemia.^[1,2] and separating by centrifugal at 3200 rpm for three minutes to obtain sera. Sera obtained wear analyzed for cholesterol, blood glucose by semi-automated chemistry analyzer (mindray BA. 88A). The data were analyzed using the statistical software package SPSS.

RESULTS

In our study we have found that the mean serum cholesterol levels were significantly higher in preeclampsia group as compared to control group (p value > 0.05) (table 1).

Table 1: serum cholesterol level in control and preeclampsia group.

Particulars	Control group	Preeclamptic
Mean \pm std	159.64 \pm 16.524	226.33 \pm 30.343
p.value		0.00

Mean serum glucose levels were normal in preeclampsia group and control group. Levels were statistically normal in the study group. (p.value > 0.05) (Table 2).

Table 2: serum glucose levels in control and preeclamptic group.

Particulars	Control group	Preeclamptic
Mean \pm std	80.6111 \pm 19.08219 mg/dl	91.7778 \pm 20.29653 mg/dl
p.value		0.019

Table 3: Age Clinical characteristic and Preeclamptic group

Parameter	Control group	Preeclamptic
Age (years)	30.4167	29.7222
Proteinuria		91.7778
Systolic BP (mmHg)	120	151.9167
Diastolic BP (mmHg)	80	107.8889

DISCUSSION

This study was conducted at Omdurman Maternity Hospital during March – July 2016, seventy two Ladies were recruited in this study and categorized into two groups, 30 ladies with preeclampsia and 36 apparently healthy pregnant ladies as control.

The results of the present study showed significant differences in the serum levels of cholesterol between preeclampsia group and healthy pregnant ladies (p.value = 0.00), with increased levels of serum and cholesterol.

The comparison between Preeclampsia and cholesterol the previous study stated that there is significant increasing in total cholesterol during onset of preeclampsia (Palanisamy Pasupathi Article) Also there is significant increasing in blood glucose during onset of pregnancy. (C N Ekhaton and M I Ebomoyi Original Article).

CONCLUSION

The findings of this study showed that the hyper cholesterolemia and normal levels of blood glucose were associated with preeclampsia and may be used as additional laboratory tests of preeclampsia. We recommended assessment of serum cholesterol as an index for predicting the preeclampsia.

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