SUMMARY AND CONCLUSIONS

Preeclampsia affects approximately 1-5% of all pregnant women and is a major cause of maternal morbidity and mortality during pregnancy in the developed world. It is associated with significant alterations of maternal physiologic characteristics and metabolism manifesting itself primarily as hypertension with arteriolar vasoconstriction.

Although the pathophysiology of preeclampsia has not yet been fully elucidated, hormonal factors as well as vascular and hemostatic hyperreactivities involving the renin-angiotensin system, eicosanoids and platelets have all been implicated. Steroid levels and recently leptin have been reported to be abnormal in women with preeclampsia.

Leptin, a recently identified hormone, is mainly secreted by the white adipose tissue but recent evidence proved that this hormone is also secreted by the placenta, leptin is produced and secreted from placental trophoblast cells into the maternal circulation in considerable amounts, contributing substantially to circulating plasma levels.

Since obesity and preeclampsia share common features, such as glucose intolerance, insulin resistance,

hyperlipidemia and hypertension, and since obesity is an independent risk factor for preeclampsia, several studies have focused on the relation between the adipocyte secreted hormone leptin and preeclampsia. These studies have reported leptin levels to be higher in preeclamptic women and have demonstrated increased leptin expression in placental tissues from preeclamptic women.

Thus it had been suggested that leptin, derived either from adipose tissue or the placenta, may be involved in the pathogenesis of preeclampsia.

It would be reasonable to speculate that hormonal predictors of preeclampsia may be influencing leptin levels. Total and free serum testosterone are significantly increased in preeclampsia and women with a documented history of preeclampsia have increased testosterone levels even 17 years post partum.

This study was designed to study plasma level of leptin and androgens in preeclamptic pregnant women compared to healthy pregnant women and their effect on fetal outcome.

Three groups of pregnant women were studied, (30) pregnant women with healthy uncomplicated pregnancies,

the 2nd group (30) mild preeclamptic group and the 3rd group (30) severe preeclamptic group.

Each case was subjected to detailed history, general examination- stressing on blood pressure, oedema and proteinuria- abdominal examination, ultrasonography to determine, fetal biometry, fetal biophysical profile and local examination.

Laboratory investigation:

Maternal plasma leptin, total testosterone, free testosterone and dehydroepiandrosterone sulphate (DHEAS) were assayed.

Maternal plasma leptin and testosterone were significantly higher in preeclamptic groups compared to healthy pregnant women, but no significant difference between 3 groups as regard freetestosterone and DHEAS.

There is positive significant correlation between leptin and systolic, diastolic blood pressure($r=0.34$ and $r=o.35$ respectively ($p<0.05$) and there is positive significant correlation between leptin and total testosterone ($r=0.55, P<0.05$).

CONCLUSIONS

1-Leptin levels are higher in women with preeclampsia than in normal control. Future research is needed to determine whether leptin is causally related to the development of preeclampsia and to study the exact mechanism by which the higher leptin levels, probably acting by activating the leptin receptors expressed in the placenta, are linked with preeclampsia.

2-Higher blood androgen levels measured in preeclamptic patients may be implicated in the pathogenesis of preeclampsia.