INTRODUCTION

Toxaemia of pregnancy is one of the most formidable risks of child bearing. In addition to increasing maternal morbidity and mortality, toxaemia of pregnancy is a major factor responsible for foetal loss. The severity of disease directly affects the perinatal mortality. The etiology and prevention of toxaemia of pregnancy have attracted the attention of many workers but despite extensive work, it continues to be the 'Obstetrician's dilemma'.

Incidence of pre-eclampsia in rural India varies from 7-10 percent. In general it may be stated that incidence of preeclampsia in developing countries is nearly similar to the highly industrialized world, but the incidence of severe varieties is much higher in developing countries due to lack of antenatal care.

Toxaemia of pregnancy also contributes to a great extent towards foetal wastage, and nearly one third of premature births of known causes are due to pre-eclampsia and eclampsia.

Eclampsia is a serious obstetric condition which is associated with increased perinatal morbidity and death. Most perinatal deaths are related to prematurity, intrauterine
growth retardation and abruptio placentae. Low birth weight infants (premature and/or small for gestation) are highly susceptible to intrapartum hypoxia, trauma and present numerous neonatal problems.

In the recent past, haemorrhage, sepsis and toxaemia were labelled as most important causes of maternal death; with the advent of antibiotics, with better management of labour, availability of blood transfusion, haemorrhage and sepsis do not continue to be as serious a problem as before, considerable advance has been made in the treatment of toxaemia with resultant reduction in mortality. However, mortality continues to be high specially when the treatment is not institutional.

Hence, it is apparent from the above that for the reduction of an overall maternal mortality and improvement in maternal health, reliable and easy methods to diagnose toxaemias early and if possible, to grade their severity, is essential.

Hitherto the diagnosis was made on the conventional trio of edema, hypertension and albuminuria. At least two of these three are usually present as a constant companion of toxaemia. However, it would be an exaggeration to say that either they are specific or sensitive enough to
foretell the degree of toxaemia. In early stages it is often difficult to differentiate preeclampsia from other conditions not peculiar to pregnancy, like essential hypertension, primary renal disease and congestive heart failure, which may have very similar presenting symptoms.

This has lead to an extensive search for some simple and reliable laboratory test for substantiating the diagnosis of preeclampsia. The tests should be reliable, simple, sensitive, diagnostic and should have prognostic value. Cadden and Stander (1939) were the first to point out that the disturbed physiology during toxaemia is associated with changes in blood chemistry, which when detected early could be used as diagnostic criterion.

Whether the kidney plays a primary or secondary role in the etiology of toxaemia of pregnancy is not known, but some derangement in renal function is certainly responsible for a part of the toxaemic process. In a series of renal clearances, during normal pregnancy, a significant decrease from the elevated glomerular filtration rate noted in the first trimester began early in the second trimester and persisted through the remainder of pregnancy.

A number of constituents of blood have been examined in normal and toxaemic patients, but none seems to answer the question completely, though estimations of
blood urea, non protein nitrogen and uric acid are of considerable value. Mundel (1930) states that blood uric acid is increased in normal pregnancy while Doris (1924), Stander and Cadden (1939) claimed reduction. However, Lancet and Fisher claimed that uric acid is increased in cases of toxaemia of pregnancy and is proportionate to severity in pre eclamptic toxaemia.

It is evident that toxaemia of pregnancy is not always manifested with conventional tried and in occasional cases the blood pressure may remain normal until eclampsia supervenes. Urea is most important end product of protein metabolism and depends for its excretion on adequate renal function. It is therefore not surprising that this product may be raised in blood in cases of toxaemia of pregnancy and its serial estimation may reflect kidney function in toxaemia.

The urea content of the amniotic fluid has been investigated by a number of workers in the past who found its level in the amniotic fluid to be higher than that of maternal and cord blood. Hutchison et al (1962) investigated the distribution and metabolism of carbon labelled urea between maternal and foetal bloods but the transfer to the amniotic fluid was appreciably slower. McKay and Kilpatrick
(1964) have observed maternal and infant plasma urea at delivery and have shown that the urea concentration in umbilical venous plasma of non toxaemic pregnancy was raised when birth weight was below average for the gestation period. Dieckmann (1952) states that the maternal blood urea nitrogen is not raised in mild or moderate pre-eclamptic toxaemia but that it may be elevated in severe ones.

The present study is undertaken with following aims and objectives:

1- To study and to compare the prognostic values of blood urea, serum creatinine and serum uric acid in normal and toxaemia of pregnancy.

2- To study the significance of cord blood urea, creatinine and uric acid in relation to foetal outcome.