ABSTRACT.

PART - I.

1) Ascorbic acid, dehydro-ascorbic acid and glutathione were estimated in the blood of 12 normal full term pregnant women and in 35 patients suffering from pre-eclamptic toxaemia.

2) Blood ascorbic acid and glutathione were found to be significantly lower in patients suffering from pre-eclamptic toxaemia when compared with those of the full term normal pregnant women.

3) Dehydro-ascorbic acid in the peripheral blood was found to be absent in 12 full term normal pregnant women and 28 out of 35 patients suffering from pre-eclamptic toxaemia. It was present in very small amount in 7 out of 35 patients suffering from pre-eclamptic toxaemia.

PART - II.

1) Twenty four hours' urinary excretion of 17-Ketosteroids was estimated in 20 normal full term pregnant women and in 36 patients suffering from pre-eclamptic toxaemia.

2) Twenty four hours' urinary excretion of 17-Ketosteroids were found to be significantly diminished in patients suffering from severe pre-eclamptic toxaemia when compared to normal full term pregnant women.

3) The possibility of the pre-eclamptic toxaemia being a disease of adaptation has been discussed.
4) The probable role of adrenal exhaustion in severe pre-eclamptic condition has been discussed.

PART - III.

1) Twenty-four hours' urinary excretion of nicotinic acid, nicotimuric acid and N'-methyl nicotinamide were estimated in normal full term pregnant women and in patients suffering from pre-eclamptic toxaemia.

2) Similar estimation were done in normal full term pregnant women and in patients suffering from pre-eclamptic toxaemia after feeding each with 100 mgs. of pure nicotinamide.

3) Same estimations were also done in normal full term pregnant women and in patients suffering from pre-eclamptic toxaemia, after feeding 5 gms. of pure d-1 tryptophan.

4) In the first group (subjects having unsupplimented diet) it was found that 24 hours' urinary excretion of nicotinic acid, nicotimuric acid and N'-methyl nicotinamide were higher in patients suffering from pre-eclamptic toxaemia than in normal full term pregnant women.

5) After feeding nicotinamide there was parallel increase of nicotinic acid and amide, nicotimuric acid and N'-methyl nicotinamide excretion in both, the normal pregnant and the toxaemic patients.
6) After tryptophan feeding it was found that the excretion of nicotinic acid and its derivatives were less in toxaemic patients than in normal full term pregnant women.

7) The possibility of diminished biosynthesis of nicotinamide from tryptophan and the probability of altered metabolic pathways of tryptophan leading to production of excess 5-HT has been discussed.

PART IV.

1) Total, free and esterified cholesterol of whole blood was estimated in normal full term pregnant women and in patients suffering from pre-eclamptic toxaemia.

2) Cholesterol content of the whole blood was found to be significantly increased in normal full term pregnant women, when compared with non-pregnant subjects.

3) Cholesterol content of the blood of patients suffering from pre-eclamptic toxaemia were significantly higher when compared to those of normal full term pregnant women, and the increase was due to the increase in the esterfied fraction, free cholesterol remaining almost the same.

4) The significance of the high cholesterol value in normal pregnancy and of still higher value in pre-eclamptic toxaemia have been discussed.
PART V.

1) Plasma protein fractions have been determined by paper electrophoresis in 12 normal full term normal pregnant women and in 14 patients suffering from pre-eclamptic toxæmia.

2) Plasma protein fractions have also been studied by paper electrophoresis in the umbilical cord blood from 12 normal full term new-born infants born of normal full term pregnant women and in 14 new-born babies born of patients suffering from pre-eclamptic toxæmia.

3) Standard plasma protein fractions, as determined by paper electrophoresis, in normal full term pregnant Indian women have been presented.

4) All the fractions of the plasma proteins have been found to be significantly diminished in patients suffering from pre-eclamptic toxæmia when compared to normal full term pregnant women.

5) Electrophoretic pattern of the plasma protein in the umbilical cord blood of new-born infants have been found to differ qualitatively and quantitatively from the adult pattern found in their mothers.

6) The plasma protein fractions in umbilical cord blood of new-born babies born of normal full term pregnant women, and those born of patients suffering from pre-eclamptic toxæmia have been found to be identical qualitatively and quantitatively, except for slight alterations in the beta-globulin fractions.
i) Blood ascorbic acid, dehydro-ascorbic acid and glutathione were estimated in patients suffering from spontaneous abortion and prolonged labour.

ii) Blood ascorbic acid and glutathione were found to be diminished in patients suffering from spontaneous abortion and prolonged labour, when compared with those of full term normal pregnant women.

iii) Dehydro-ascorbic acid in the peripheral blood was found to be present in most of the cases, suffering from spontaneous abortion and prolonged labour. The role of ascorbic acid deficiency in the causation of chorion-decidual haemorrhage and abnormal uterine action has been discussed.