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In the modern era hypercholesterolaemia is seen to be a major problem. Hence it becomes essential to correlate the total serum cholesterol levels with normal pregnancy and the different toxic states as for e.g. pre-eclamptic and eclamptic toxaemia. The present study was conducted keeping the above fact into view.

It has been established by Boyd, (1934), Dieckmann and Wegner (1934), Schwarz et al (1940), Peters et al (1951), Russ et al (1954), Smith et al (1959), that during normal pregnancy up to full term there was a rising trend of the serum total cholesterol level which progressively decreased after delivery. While in pre-eclamptic and eclamptic toxaemia, it has been established that there is an increasingly rising trend in the serum total cholesterol levels (Nelson, 1966; Pontis and Purandare, 1972; Hytten and Lind, 1973; Chaturvedi, Tandon and Singh, 1978).

The present study was thus conducted and the total serum cholesterol levels were estimated in conditions of normal pregnancy, pre-eclampsia and
eclampsia during the different periods of gestation, labour and in early and late post partum period. The levels were then compared amongst the different conditions and finally the serum total cholesterol levels were also estimated on the basis of different parameters which have an effective bearing on the above conditions like socio-economic status, parity, dietary habits and lactation.

The serum total cholesterol levels when estimated in antenatal and post natal periods in subjects with normal pregnancy and pre-eclampsia were observed to rise up to term and fall during the post natal period. The results when statistically estimated were found to be insignificant except in a few cases of pre-eclampsia where the results were found to be statistically significant.

In condition of eclampsia, the serum total cholesterol levels were observed to fall during the post natal period, from labour onwards. Though the results thus obtained were statistically insignificant.

A comparison between the levels of total serum cholesterol was done during the 28th - 40th week of gestation in conditions of normal and pre-eclamptic subjects. The results concluded were
found to be statistically insignificant though the levels were greater in conditions of pre-eclampsia when compared with that of normal pregnancy. Similar view is held by Dr. Alvaraz (1961) but according to Scandrett (1959) there was not much change in cholesterol levels in severe pre-eclampsia subjects when compared with normal gravida.

A comparative study was done in condition of normal pregnancy, pre-eclampsia and eclampsia for the serum total cholesterol levels, during labour, within 24 hrs of delivery, on the 7th post partum day and 6-8 weeks of delivery. It was observed that the values in pre-eclamptic subjects were higher when compared with that of normal pregnancy and a comparatively lower values during eclampsia though the above results were statistically insignificant. The exact cause of the results cannot be elucidated. The decrease can be attributed to the fact that during eclampsia due to hepatic insufficiency, the endogenous production of cholesterol is curtailed, and simultaneously no cholesterol is given to the patient via the exogenous route also probably this could account for the fall in the cholesterol levels.

Konttinen and Pyorala (1964) had done a similar study and deduced that the level of cholesterol
were higher in pre-eclamptic subjects when compared with those of normal pregnancy, and the results were also statistically insignificant, except during delivery when a statistically higher levels were seen.

The relation of serum total cholesterol during normal pregnancy, pre-eclampsia and eclampsia with parity was studied and there was no positive relation concluded. Further research work is needed in this field to sought out the relation of parity in the above three conditions.

The relation of the cholesterol levels with the socio-economic status was studied and was observed that in normal pregnancy and in eclampsia there was a positive relation of the cholesterol levels with the socio-economic status, while no such relation could be sought out in pre-eclamptic subjects.

Cholesterol levels in relation to sufficient lactation, insufficient and no lactation after 6-8 weeks of delivery were found to be statistically highly significant in conditions of insufficient and no lactation when compared with sufficient lactation in cases of normal pregnancy and pre-eclampsia, whereas no such relation could be observed in subjects of no lactation and insufficient lactation on the 7th day
of delivery. The levels of cholesterol in all the conditions of lactations were statistically insignificant.

In eclamptic subjects both on 7th and 6-8 weeks of delivery in all the three conditions, the levels were statistically significant on the 7th day and highly significant after 6-8 weeks of delivery. The reason of this can be attributed to the fact that in eclamptic subjects, there is initially no endogenous cholesterol production and there is also a failure to take cholesterol exogenously, besides this the cholesterol saved due to no lactation or insufficient lactation gives an apparently increased level of cholesterol.

According to Neumann and Herrmann (1912), Boyd (1935), the total blood cholesterol and total lipids decreased during normal lactation, but remained elevated when lactation did not occur.

The relation of diet with the serum total cholesterol levels during the ante-natal and post natal periods of normal pregnancy, and pre-eclampsia showed a positive relation with high fatty diet, even in condition of eclampsia during the post natal period (ante-natal could not be studied). There was observed
a positive relation of the cholesterol level with high fatty diet.

According to Mullick and Bagga (1964) there is no relation of serum total cholesterol with the high fatty diet in condition of normal pregnancy.