

SUMMARY AND CONCLUSION

SUMMARY AND CONCLUSION

The present work was carried out to study the serum levels of cholesterol and triglyceride in cord blood of newborn babies. The study was conducted at M.L.B. Medical College, Jhansi, in the Department of Paediatrics in active collaboration with Department of Obstetrics & Gynaecology, from August 1994 to July 1995. The primary aim of study was to find out the normal values of cord cholesterol and triglyceride in term babies and to observe the correlation, if any, between their levels to prematurity, birth weight, intra-uterine growth retardation and perinatal stress factor.

The mean serum level of cholesterol of the newborns studied was 82.140 ± 12.763 mg/dl and mean triglyceride level observed to be 49.461 ± 20.694 mg/dl. In present study there were 30 males and 25 females. Both the groups had no difference in serum cholesterol and triglyceride levels statistically.

Relation to gestational age :-

The cholesterol values were statistically insignificant in different increasing gestational age

groups. The values were 83.063 ± 14.52 mg/dl in gestational age group 38-41 weeks, 80.778 ± 9.371 mg/dl in 34-37 weeks of gestational age and 78 ± 1.66 mg/dl in less than 33 weeks of gestational age, but the triglyceride levels showed direct correlation with increasing gestational age groups. The levels were 37.71 ± 26.055 mg/dl, 42.032 ± 20.857 mg/dl and 52.24 ± 18.84 mg/dl in ≤ 33 weeks, 34-37 weeks and 38-41 weeks of gestational age groups respectively.

Relation with birth weight :-

There were 11 babies of appropriate for gestational age, 5 babies of large for gestational age and 4 babies of small for gestational age in pre-term group and in term group, 29 babies of appropriate for gestational age and 6 babies of small for gestational age group.

The mean cholesterol value was statistically higher in pre-term small for gestational age group (86.241 ± 13.353 mg/dl) when compared with pre-term appropriate for gestational age group (79.404 ± 5.85 mg/dl). In term group also, small for gestational age group had higher levels of cholesterol statistically (91.101 ± 23.064 mg/dl) in comparison with appropriate for gestational age group (81.4 ± 11.32 mg/dl).

The mean triglyceride level was statistically higher in pre-term small for gestational age group (62.498 ± 25.76 mg/dl) when compared with pre-term appropriate for

gestational age (40.77 ± 23.324 mg/dl) and pre-term large for gestational age (38.702 ± 4.887 mg/dl). Term small for gestational age group had statistically indifferent level of triglyceride (52.692 ± 14.86 mg/dl) when compared with term appropriate for gestational age group (50.560 ± 19.551 mg/dl).

On observing the cholesterol and triglyceride levels in different groups of birth weight, it was seen that there was linear correlation with the increasing birth weight. The difference was significant ($P < 0.05$).

Relation with Perinatal stress factors :-

The serum cholesterol values were 83.186 ± 15.252 mg/dl in stress newborns and 81.336 ± 10.579 mg/dl in normal newborns. The difference was statistically insignificant. On observing the levels of cholesterol in babies affected by perinatal stress factors individually like prolong labour, pre-eclamptic toxemia, birth asphyxia and caesarean section respectively, the cholesterol values showed no indifference statistically in comparison with normal counterparts. The values were 75.992 ± 1.332 mg/dl, 74.786 ± 8.865 mg/dl, 76.659 ± 3.333 mg/dl and 84.137 ± 15.921 mg/dl. When each group compared with normal newborns (81.336 ± 10.519), the difference was statistically insignificant, even in presence of more than 2 stress factors. Thus cord cholesterol values were not affected by perinatal stress factors.

The triglyceride values of stress newborns and normal newborn babies were 50.355 ± 19.881 mg/dl and 41.027 ± 17.037 mg/dl respectively. The difference was statistically highly significant ($P < 0.001$). On observing the levels of triglyceride in babies affected by perinatal stress factor individually like prolong labour, birth asphyxia, pre-eclamptic toxemia and caesarean section. The respective triglyceride values were 72.502 ± 22.26 mg/dl, 58.703 ± 20.711 mg/dl, 61.891 ± 27.930 mg/dl and 63.025 ± 19.37 mg/dl, when compared with normal counterpart 41.027 ± 17.037 mg/dl. The difference were statistically significant.

Correlation was also found in triglyceride levels with increasing number of stress factors. The triglyceride levels were 57.915 ± 18.773 mg/dl, 56.458 ± 2.618 mg/dl, 76.94 ± 16.94 and 93.744 mg/dl when one, two, three and four perinatal stress factors influenced respectively. The differences were highly significant when compared with normal newborns (41.027 ± 17.037 mg/dl). Thus triglyceride level increased with increasing number of perinatal stress factors.

CONCLUSION

Following conclusions were drawn from observations of this study :

1. The mean cholesterol and triglyceride was 82.140 ± 12.763 mg/dl and 49.46 ± 20.693 mg/dl respectively.
2. Sex made no difference in serum levels of cholesterol and triglyceride.
3. Triglyceride levels had direct correlation with gestational age.
4. Cholesterol level was higher in < 2.0 kg birth weight in comparison with more than 3.0 kg birth weight.
5. Triglyceride level had inversely proportional correlation with birth weight.
6. Small for date babies had significantly higher level of triglyceride in comparison with appropriate for gestational age.
7. Perinatal stress factors mainly affect the triglyceride levels. The triglyceride level increases with increasing number of perinatal stress factors.
