Abstract

J Perinat Med. 1998;26(4):313-9.

Long chain W3 polyunsaturated fatty acids and lipid pattern in the mother and the newborn infant.

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OBJECTIVE AND METHODS: We studied 162 mother-neonate pairs to determine the relationship between w3 long chain polyunsaturated fatty acid (w3LCP) intake during pregnancy and their levels in the mother and the neonate, and the general lipid pattern in the mother and the neonate. A dietetic interview was performed to assess the w3LCP intake during pregnancy. In both mothers and neonates we studied the w3LCPs in plasma and erythrocyte phospholipids and also the general lipid profile (total cholesterol, HDL-c, LDL-c, triglycerides, apo A1 and apo B).

RESULTS: The w3LCP intake assessed by the dietetic interview (0.74 +/- 0.52 g/day) did not correlated with any of the parameters of the general lipid pattern in mothers or neonates. In mothers, the w3LCP levels in plasma expressed in percentages showed a positive correlation with apo A1 and HDL-c, and a negative correlation with triglycerides and apo B. The w3LCPs levels in mothers showed an inconsistent and weak correlation with triglycerides and apo B in neonates. When w3LCPs levels were assessed in the neonates themselves a consistent positive correlation was found with triglycerides. We concluded that in the dietetic range of our population, the intake of w3LCPs was not associated to any changes in the general lipid pattern of mothers or neonates. Whereas the w3LCP levels in mothers were correlated with the changes in the general lipid pattern reported outside pregnancy, such correlations were not present in regard to the neonate general profile, whereas the newborn's w3LCP levels were correlated with triglycerides.

CONCLUSIONS: We believe that the hypertriglyceridemia of pregnancy, the placenta and the peculiarities of fetal metabolism are the causes of the aforementioned findings.

PMID: 9846307